

American Fruit Grower

MARCH • 1960

25 CENTS

PRODUCTION

PACKING

MARKETING



America's Fruit Areas—
OKLAHOMA

Improved Insect Control
in Grapes

California's
Farm Labor Dilemma

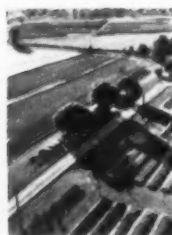
New Sprayers for 1960

Scotian Gold's Unique Chain of Roadside Markets



“We got
almost perfect
control of
fire blight
with

AGRI-MYCIN® 100”



Paul Stark, Jr.

Stark Bros. Nurseries
Louisiana, Missouri

“Our 1959 spray program with Agri-mycin was highly effective in an epidemic year, even on the most susceptible varieties of apples and pears.

“In our rather extensive experimental orchards and in my own block of trees at home, we used a spray program worked out with a university.

“We kept the blossoms covered with Agri-mycin (Terramycin®—streptomycin combination) from the earliest bloom through the latest flowers. This meant 4 or 5 applications of Agri-mycin at 100 parts per million.

“During 1959, we suffered no economic loss to speak of in tree plots covered with this Agri-mycin spray program. There was a slight amount of injury to foliage of some varieties of pears but the trees rapidly recovered.

“A few apple trees also showed a small amount of damage but we cut it out quickly, well below the area showing the infection.

“This program had remarkable effectiveness in a year which showed heavy fire blight injury throughout other areas of Missouri and Illinois that I visited.

“The important thing in our case, I think, was thoroughness—keeping trees well covered with Agri-mycin during the entire blossoming period, and fast action in cutting out the small amount of damage we did discover.”

®Terramycin brand of oxytetracycline. ®Agri-mycin brand of oxytetracycline-streptomycin formulation. *U. S. Pat. No. 2,801,950

Chas. Pfizer & Co., Inc.
Brooklyn 6, N. Y.
Science for the world's well-being™



SPRAYING?

"I'D BUY FIRESTONES EVEN IF THEY COST MORE!"



John Norton (left), who uses Firestones on 17 tractors, chats with Firestone representative, O. M. "Percy" Robertson, of Allbright's.

says John Norton, John Norton Farms, Blythe, California. "In our experience, Firestones have proved to be superior in wear rendered per dollar invested. They're always a better buy—regardless of price cuts available with other tires—because they don't let us down. And the service we get from Allbright's, our Firestone representative in Guthrie, is another reason Firestones are the only tires we buy."

Like John Norton, you'll find these exclusive features deliver extra service at no extra cost!

- Firestone's curved and tapered traction bars give full power pull . . . clean automatically!
- Firestone Rubber-X is the longest-wearing rubber ever used in Firestone tractor tires.
- Firestone Rubber-X special compound for sidewalls only resists aging, cracking and buckling.
- Firestone Shock-Fortified cord is stronger . . . insures great impact resistance in all farm tires.

- Firestone FREE New Tractor Tire Loaner Service keeps you going during retreads and repairs.

For outstanding traction and greater economy, get Firestone All Traction Champion, Firestone Champion Ground Grip or *special purpose* Firestone All Non-Skid tractor tires. Get in touch with your Firestone Dealer or Store for all the facts!



ALWAYS A YEAR TO PAY

*Firestone T.M.

Firestone

BETTER RUBBER FROM START TO FINISH

Copyright 1960, The Firestone Tire & Rubber Company

SPRAYING?

Low Cost AO

Goggle-Respirator

Protects Eyes,

Nose and Lungs

for Less than \$10!

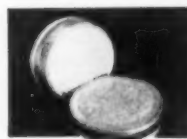
Here's comfortable combination eye and respiratory protection against insecticides — proved in orchards from coast to coast — made by the world's leading maker of personal safety equipment. Approved by the Dept. of Agriculture against dusts, sprays, mists and vapors of Phosdrin, Systox, TEPP, HETP, Parathion, Aldrin, Dieldrin, Endrin, Chlordane, EPN.

QUICK FACTS

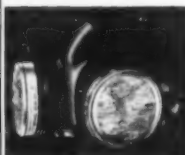
- RESPIRATOR is easy to breathe through
- GOGGLE is easy to see through (has wide field of unobstructed vision)
- CARTRIDGES in respirator filter out dangerous vapors — built-in fibrous filter catches dust, mist and spray particles.



RESPIRATOR ALONE
(R5058) \$6.20



COMBINATION
COMPLETE \$9.80
with filter cartridges
(R71558)



R55 REPLACEMENT
FILTERS \$4.80
(Pkg. of 3 pair)

Prices subject to sales tax
if applicable.

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Southland Farm Store
5230 Maple Ave., Dallas, Texas
Woolfolk Chemical Works, Ltd., Fort Valley, Ga.



American Fruit Grower

Cover illustration shows a busy day at a Scottish-Gold roadside market. See story on page 11.

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MARCH, 1960

No. 3

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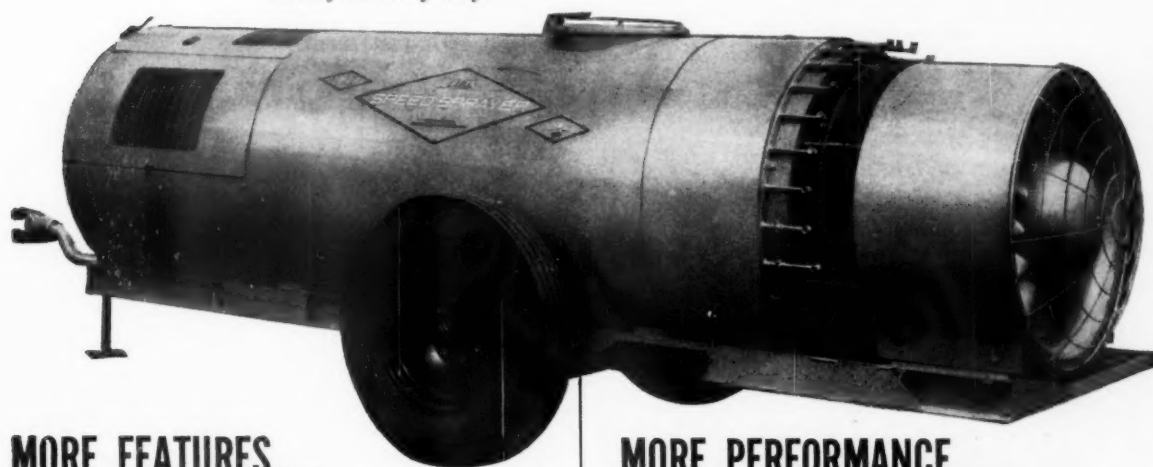
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AMERICAN FRUIT GROWER

MORE SPRAYER FOR YOUR MONEY...

John BEAN 275 c.p. SPEED SPRAYERS®

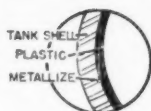
More quality features . . . better performance . . . built-to-last construction . . . low-cost — they're all yours with the 275 C.P. Speed Sprayer Models. These compact Speed Sprayers combine the same efficient air handling design with many exclusive features of the larger models — you get more sprayer for your money in every way.



MORE FEATURES...

Double-protected BEAN-BOND tanks

Special plastic coatings make tank interiors virtually impervious to rust, corrosion, chipping and peeling.

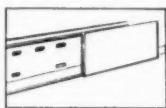


Choice of pumps

Model 275 C.P. pump delivers 24.7 gpm at 400 lbs. pressure. Pump capacity of Model V275 C.P. is 50 gpm at 55 lbs. pressure.

Rugged frame

Won't twist or bend even over roughest terrain. Heavy gauge channel is reinforced at stress points by plates welded to form a box frame.



Choice of tank sizes

Either model in the 275 C.P. Series is available with 300 or 400 gal. Bean Bond tanks.

Convenient controls

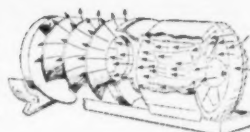
Engine throttle and spray material controls mount on tractor for quick, easy operation.

One of the 14 Speed Sprayer models or 2 attachments will fit your needs exactly. Your John Bean Dealer will gladly demonstrate in your orchard.

MORE PERFORMANCE...

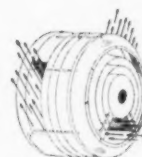
Aerodynamic air handling

Exclusive inside air control gives you deep-penetrating spray patterns for uniform, thorough tree coverage.



Air scoop section

This exclusive feature channels bottom air into the pattern for extra penetrating drive for positive coverage of upper tree parts.



Free Literature — Write today!

"1960 Orchard and Grove Sprayer Catalog"

"What You Should Know About Air Carrier Spraying"

"SHUR-RANE Sprinkler Irrigation"

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BEAN®**

DIVISION OF
FOOD MACHINERY AND CHEMICAL CORPORATION

LANSING, MICHIGAN • ORLANDO, FLORIDA • SAN JOSE, CALIFORNIA®



NOTICE



APPLE GROWERS YOU CAN ELIMINATE SCAB PROBLEMS WITH PHIX®

THE TIME-TESTED, RELIABLE FUNGICIDE FOR APPLE SCAB CONTROL

- ✓ MOST EFFECTIVE FUNGICIDE for killing the scab organism.
- ✓ MOST ECONOMICAL—save up to 40% of spray costs.
- ✓ MOST "KICK-BACK" ACTION—eradicates scab after infection.
- ✓ MOST CONVENIENT TO HANDLE—packaged to eliminate measuring.
- ✓ MOST FOR YOUR MONEY.



STRAWBERRY GROWERS ELIMINATE SEVERE CROP LOSSES FROM LEAF AND STEM-END FRUIT ROT DISEASES WITH

PHIX®

An early spray with PHIX kills disease-causing organisms, providing the most effective and most important single control measure available. Recommended by fruit specialists and leading commercial strawberry growers.



PEACH GROWERS ENORMOUS SAVINGS IN THE COSTS OF PEACH THINNING ARE NOW POSSIBLE WITH NIP-A-THIN 602®

Specially developed for peach thinning and described as "the best and most consistent chemical thinner for peaches so far tested." Now available to commercial peach growers for trial use.

Order these products from your supplier. For more information and free literature, write

CHEMLEY PRODUCTS COMPANY

5744 N. Western Avenue Chicago 45, Illinois

*PHIX and NIP-A-THIN registered Trade Marks of Chemley Products Company.

LETTERS TO THE EDITOR

Overgrading?

Dear Editor:

Your editorial entitled "Are We Overgrading?" in a recent issue of your magazine is, in my humble opinion, a disservice to the industry.

Far too many growers now want to stick right to the line, or even "get by" with inferior fruit down in the pack. This practice might get them by once, but the penalty (as I have personally experienced it) is that the buyer doesn't want any more of that particular pack.

Fortunately for the latter, there are packers who realize the advisability of doing a superior job, even give the buyer extra quality, color, and poundage. These better packers are the boys who get the repeat business and, in time, create such a demand for their product that they can raise prices.

When numerous buyers tell me personally that they're willing to pay the necessary premium to get consistently outstanding packs from the competition, it's time to wake up and "overgrade".

Romney, W. Va.

R. L. Sumner

Our complaint is that it is folly to mark a fancy pack with the No. 1 grade just to be on the safe side. This implies that the fruit grower does not have confidence in his grading.

We have always stood for expert grading and high quality packs. The grower who lets inferior fruit masquerade under a fancy grade is hurting himself and his industry. We cannot help but agree with Reader Sumner on this score.—Ed.

Unloading "Rocket"

Dear Editor:

I read the article on store-door delivery in the December issue, and I would like to add my comments about the unloading racket in New York.

I lived in New Jersey for eight years, and I had trouble with the unloading "racket" then. When I took a load to the commission house, I was not allowed to unload it, even though it was my own produce and my own truck.

Since I had a considerable distance to go, I had a helper with me, but we had to stand by and let the union men unload it, and when I would remonstrate about their rough handling of the fruit and produce, they would say that if I did not like the way they did it, it could just stay on the truck, and I would not be allowed to unload it, either.

When the fruit was sold, there was another fee for loading it. This fee was 8 cents for unloading and 8 cents for loading out, a total of 16 cents per package, which meant \$16 for a load of 100 packages.

The commission man told me that there was nothing we could do about it, and so I went to the farmers' market in Paterson, and sometimes there was not enough demand there for a big load, but I avoided the unloading tariff.

Farmington, Mo.

E. Longenecker

It Hit The Spot

Dear Editor:

Your cartoon on the editorial page of the December issue is a masterpiece. Any chance for me to get the original drawing? I'd frame it and hang it above my grower-husband's desk as a gentle reminder.

La Crescent, Minn.

Mrs. Karl Burow

We're happy to send Reader Burow the original, and we hope it does the trick. Mink coat in the offing? Or does Mr. B. get a new sprayer instead?—Ed.

AMERICAN FRUIT GROWER



*"They treat you fine
at the
Goodyear Sign!"*

only with **TRACTION SURE-GRIP** the peak efficiency of **"TOTAL TRACTION"**



That's how TRACTION SURE-GRIP develops "total traction" to make the most of your modern tractor's higher horsepower—give you more work, in shorter time, on less fuel.

And TRACTION SURE-GRIP is built with 3-T Processed Cord too! 3-T Processed Cord is triple-tempered by the exclusive Goodyear process involving Tension, Temperature and Time. It gives you new freedom from bruises, buckle breaks, cracking.

ON-THE-FARM SERVICE. Your Goodyear dealer is equipped to deliver, mount, fill or repair tractor tires right on the spot. He'll supply free loaners while your tires are being repaired or retreaded. He'll give you expert help on tire maintenance. Call him in to quote you his liberal trade-in tire allowances! Goodyear, Farm Tire Dept., Akron 16, Ohio.

Tops in front tire performance

NEW SUPER-RIB

3 ribs for better steering,
better flotation, better wear!



BUY OR SPECIFY FARM TIRES BY

GOODYEAR

Sure-Grip—T.M. The Goodyear Tire & Rubber Company, Akron, Ohio

MORE FARMERS PREFER GOODYEAR TRACTOR TIRES THAN ANY OTHER KIND

MARCH, 1960

See how it works!



THE START: TRACTION SURE-GRIP thrusts solidly against walls of earth behind its lugs—a greater area to utilize the torque because the lugs are longer, deeper and ruler-straight.



THE FIRST FORWARD MOVE: Now the lugs, wider apart at the tire center than at the shoulders, actually wedge the soil between them for a vise-like grip that cuts way down on slippage.



THE SHOULDERS ADD THRUST: The TRACTION SURE-GRIP lugs, running right down the sidewalls, add many extra square inches of traction area. This thrust at the sides of the tire, as well as under it, results in "total traction."

PEACH DISEASE CONTROL

SUGGESTIONS FROM STAUFFER

Good disease control requires thorough and timely sprays, of course. Below is a brief review on the use of several Stauffer spray materials that have given effective and economical peach disease control over the years.

Full Pink Sprays—Stauffer MAGNETIC® "70" Sulfur Paste is preferred because of its unsurpassed sticking qualities. Stauffer MAGNETIC "95" Microfine Wettable Sulfur may be substituted. These sulfurs control brown rot (blossom blight) and powdery mildew.

Blossom Sprays—MAG "70" is the preferred sulfur spray, but Stauffer Captan 50-W is more effective if blossom blight is a problem. Begin spraying when blossoms start to open, repeat at 2 to 3 day intervals throughout bloom if conditions favor blight.

Petal Fall Spray—For brown rot, powdery mildew and scab use a combination of MAG "70" and Captan, or MAG "70" alone. The combination will give you more effective protection. Continue through shuck split and shuck fall sprays.

Pit Hardening and Cover Sprays—After the pit hardening stage, it is suggested that you switch to Stauffer CROWN® brand sulfur because it is coarser, does not stick as tightly and therefore lets peaches color well. CROWN brand sulfur will give you the most economical program. If you want to maintain a quality program, Captan should be added throughout.

These suggestions apply principally to the Eastern half of the U. S. For a free copy of Stauffer's complete "Peach Spray Program for Control of Insects and Diseases," write to Stauffer Chemical Company, Agricultural Chemicals Division, 380 Madison Avenue, New York, 17, New York.

*Registered trade-mark for Stauffer Chemical Co.,



Calendar of Coming Meetings & Exhibits

Mar. 4-5—Mid-Willamette Valley Horticultural Equipment Display, Polk County Fairgrounds, Rickreall, Ore.

Mar. 9—Midwest Dwarf Fruit Tree Association annual meeting, Hill Top Orchards, Hartford, Mich.—R. F. Carlson, Sec'y-Treas., Michigan State University, East Lansing.

Mar. 18—Annual Peach Pruning Conference, Frank Street Orchard (Cardinal Farms), Henderson, Ky.

Apr. 14-15—2nd Western Conference on Post Harvest Physiology & Biochemistry, Univ. of Calif., Davis.—Public Service office, Univ. of Calif., Davis.

Apr. 24—Ohio Nut Growers Association annual meeting, Kingwood Center, Mansfield.—E. M. Shelton, Sec'y-Treas., 1468 W. Clifton Blvd., Lakewood.

Apr. 28-29—Shenandoah Apple Blossom Festival, Winchester, Va.

Apr. 28-30—Washington State Apple Blossom Festival, Wenatchee.—Mrs. Ginny Hopkins, Publicity Director, 128 S. Wenatchee Ave., Wenatchee.

June 10—Walnut Day, University of California, Davis.

June 11—Almond Day, University of California, Davis.

July 12-13—Texas Pecan Growers Association annual meeting, Brownwood.—F. R. Brison, Sec'y, College Station.

July 25-27—International Apple Association annual convention, Hotel Fontainebleau, Miami Beach, Fla.—Fred S. Johnston, General Chairman, Seald-Sweet Sales, Inc., 110 Oak Ave., Tampa 1, Fla.

Sept. 11-14—Produce Packaging Association annual convention and exposition, Americana Hotel, Miami Beach, Fla.—Robert L. Carey, Exec. Sec'y, P. O. Box 29, Newark, Del.

Sept. 27-29—Florida Fruit & Vegetable Association annual convention, Hotel Fontainebleau, Miami Beach.—J. Abney Cox, General Convention Chairman, Princeton.

BOOK REVIEW

Compendium of Plant Diseases, edited by Gordon A. Brandes, Tulio M. Cordero, and Robert L. Skiles, \$3. Rohm & Haas Company, Washington Square, Philadelphia 5, Pa., publishers.

The first step in diagnosing a plant disease is the ability to recognize its symptoms. Editors Brandes, Cordero, and Skiles have compiled an excellent reference guide to aid agricultural workers and growers in their fight against diseases.

Compendium of Plant Diseases includes 125 color photographs of diseases with a description of the diagnostic symptoms and general control measures of each disease.

The diseases described represent the major causal agents—bacteria, fungi, viruses, and nematodes. The text is divided into sections covering diseases of vegetables, fruits and nuts, field crops, and specialty crops.

Compendium of Plant Diseases is the only volume available showing such a large selection of four-color photographs of diseased fruits and vegetables, field and specialty crops.

This handy reference has been published to commemorate 50 years of service to agriculture and industry by Rohm & Haas Company.

AMERICAN FRUIT GROWER

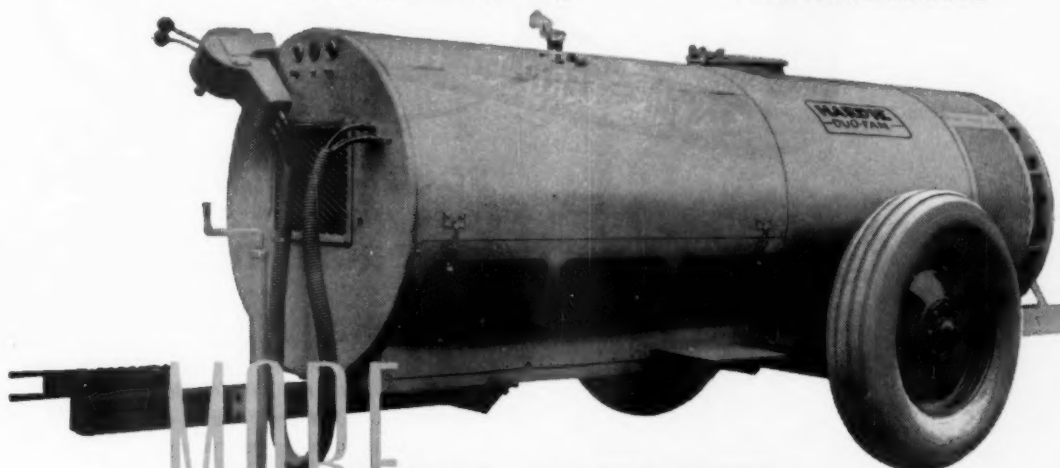
FROM HARDIE THE NEW

COMPACT-RUGGED

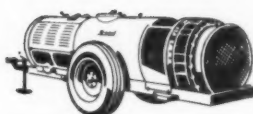
PERFORMANCE DF-480

- ◆ NEW ADJUSTABLE AIR GUIDE VANES AND INDIVIDUAL NOZZLE SHUT OFF PROVIDE SPRAY PATTERNS TO MEET MOST EXACTING ORCHARD REQUIREMENTS
- ◆ STREAMLINED DESIGN . . . LOWER SILHOUETTE IMPROVED PERFORMANCE AND VERSATILITY
- ◆ GROUND CLEARANCE 8½" to 21½"

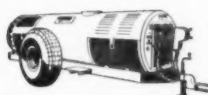
- ◆ NEW FRAME CONSTRUCTION AND IMPROVED FAN HOUSING DESIGN ASSURES DURABILITY AND LONG LIFE
- ◆ BIG OVERSIZED UNIVERSAL JOINTS
- ◆ IMPROVED-POSITIVE REMOTE CONTROLS
- ◆ HEAVY DUTY AXLE AND SPINDLE



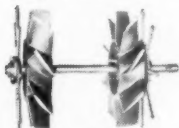
FOR YOUR MONEY...



Hardie DF-800, greatest and most advanced sprayer ever built. Over 97,500 cubic feet of air per minute.



Hardie DF-520 includes the same advanced features as the DF-800, with over 62,500 cubic feet of air per minute.



Hardie patented two-fan assembly, std. equipment on all sprayers. Delivers 30% more air volume than conventional axial flow fan.



Dependable, proven aircraft type, remote control, simple, heavy duty, controls throttle and spray delivery on one or both sides.

- ◆ TWO CAST ALUMINUM AXIAL FLOW FANS
- ◆ MORE THAN 40,000 CUBIC FEET OF AIR
- ◆ MORE ECONOMY . . . LOWER ENGINE RPM

- ◆ MORE THAN 48" OF WORKING FAN SURFACE
- ◆ MORE THAN 100 MILES PER HOUR VELOCITY
- ◆ MORE FEATURES • EASIER OPERATION AT NO EXTRA COST

Here's just the sprayer you've been looking for—The Brand New—Compact—Rugged—HARDIE "Duo-Fan" DF-480.

This new sprayer was designed with the small grower in mind. The new Hardie DF-480 excels all others in performance, mobility and economy, and is built to last for many years of continuous operation under the most difficult conditions.

The new Hardie DF-480 is available in 300 and 400 gallon tank sizes (Hardie-Klad Stainless Steel—optional extra). Also available with the popular Hardie High Pressure Pump or the new improved centrifugal pump (80 GPM—150 PSI).

If you want additional information or an actual demonstration in your own orchard, simply fill in the coupon below and mail today.

HARDIE PEST CONTROL EQUIPMENT <small>• SOLD AND SERVICED</small>		THE HARDIE MANUFACTURING CO., INC., DEPT. AF WILKES-BARRE, PENNSYLVANIA	
AGRICULTURAL SPRAYERS • HIGH PRESSURE PUMPS • DUSTERS		Please send me full details of the Hardie "Duo-Fan" DF-480.	
NAME _____		NAME _____	
ADDRESS _____		ADDRESS _____	
CITY _____		CITY _____ STATE _____	

SPRAYERS ARE OUR BUSINESS—OUR ONLY BUSINESS FOR OVER 65 YEARS

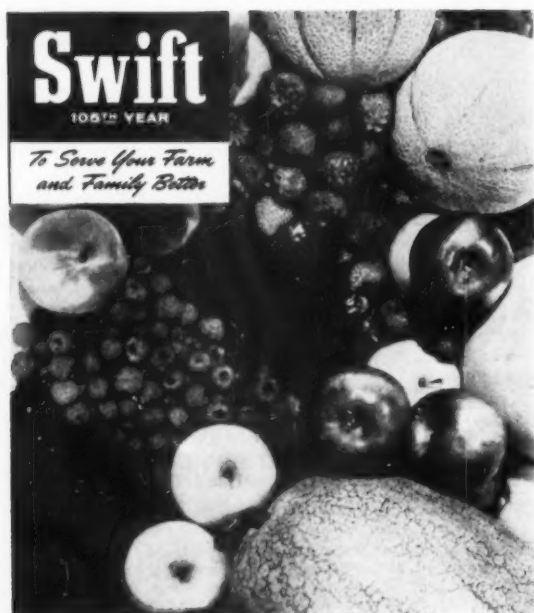
Great Money-Making News for the Growing '60s

BRAND NEW!

NOW look on the bag...



specific plant foods for each important crop



GOLD BEAR—Control weeds and insect pests and diseases with Swift's Gold Bear pesticides. They're guaranteed for quality.

Now Swift offers you a plant food matched to the individual needs and feeding habits of each specific fruit. Just look on the bag for the crop name. Each of Swift's new **Certified Formula** crop foods is tailor-made by areas for a single fruit crop.

Certified Formula crop foods are all new for 1960! Each grade is based on the latest scientific information for your specific crop and is formulated by areas to take advantage of the nutrients in your soil.

All **Certified Formula** crop foods contain the *extra* growth elements needed for highest yields and quality. Every acre of land has more power to produce than with regular plant food.

ORDER NOW! Be sure of having Swift's great new money-making **Certified Formula** crop foods when you need them. Your authorized Swift plant food dealer or agent will be glad to tell you about the new **Certified Formula** crop foods. He will also help you with soil fertility recommendations.

SWIFT & COMPANY • Agricultural Chemical Division
Chicago 9, Illinois

Mac DOLLAR says:



WHEN YOU'RE FARMING TO MAKE MONEY, SWIFT'S YOUR FINEST BUY!

American Fruit Grower

• Fruit for Health •

Scotian Gold's SEVEN POTS OF GOLD

American Fruit Grower's roadside market plan helped to inspire this unique chain of markets

By A. E. CALKIN

General Manager
Scotian Gold Co-operative Limited

TWENTY years ago the province of Nova Scotia was considered one of the major apple producing areas in the world. It exported approximately 85% of a normal 6.5 million bushel crop to Great Britain.

A drastic reduction on this export occurred at the commencement of World War II and crops of from 2 to 3 million bushels are about average now.

Scotian Gold Co-operative, and its predecessor the United Fruit Cos. of Nova Scotia Limited, has always played the dominant role in the Nova Scotian apple industry. It normally handles at least half of the total volume either in fresh form at its four cold storages or through its two processing plants.

Like others in the fruit industry, Scotian Gold Co-op found it increasingly necessary to diversify its operations and also to find new outlets for the comparatively new and increasing production of other fruits such as cherries, plums, pears, peaches, etc., from its approximate 500 active members.

As the result of a trip to Florida some years ago by a member of its executive, an idea was born which has resulted in the establishment of a chain of seven Scotian Gold roadside markets in well located parts of Nova Scotia and New Brunswick.

"All the orange juice you can drink for 10c," freely advertised all over Florida, gave the Scotian Gold man an idea which, strangely enough, had not occurred to anyone in the famous Annapolis Valley in Nova Scotia—sweet apple cider!

A careful and thorough study of



A Scotian Gold market before the start of a busy day. Cover illustration shows consumer traffic.

roadside markets, both in the United States and Canada, was undertaken with the result that the first Scotian Gold roadside market opened in 1955 at Coldbrook with the accent on "ice cold, sweet apple cider."

Incidentally, the basic architectural plan for this and all subsequent markets is one which was advertised in AMERICAN FRUIT GROWER. This plan was somewhat modified and, in the opinion of Scotian Gold, improved.

It was soon apparent that such outlets not only could be profitable but, equally important, could materially assist in marketing a large part of the production of Scotian Gold's members.

After the first year's operations at Coldbrook, which is located adjacent to two of Scotian Gold's cold storages, it was decided to extend the plan to other locations. It was agreed, however, that it would not be practical for Scotian Gold to effi-

ciently manage these operations so far from home base. Other strong groups of farmers' co-ops in various parts of Nova Scotia were approached and the interest and response were immediate.

Roughly the plan works like this:

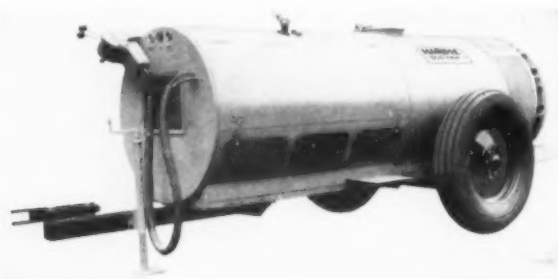
Local co-ops in the province enter into an agreement with Scotian Gold to construct and operate a Scotian Gold roadside market in their area. The market must conform to the general plan, color, etc., of others in the chain. The co-op must agree to maintain the high standards set by Scotian Gold and to feature and display all Scotian Gold lines of manufactured products such as cider, applesauce, honey, pears, jams, jellies, syrups, etc.

It must also agree to purchase Scotian Gold's complete line of fresh fruits and vegetables if they are competitive in quality and price.

Each market is distinctive with its
(Continued on page 61)



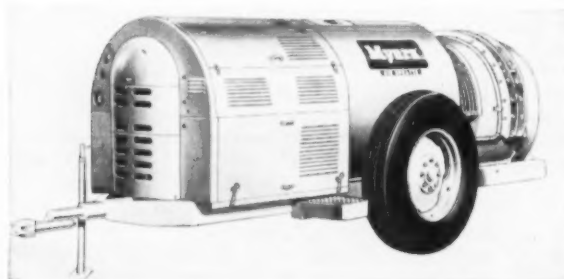
Besler 580 is equipped with a new oscillator designed to give better coverage. There are also five other models. The 450-6 has added horsepower with a new Ford industrial power 223 engine.



Adjustable air guide vanes and individual shut-off of Hardie DF-480 are designed to provide exacting spray pattern. Available in 300- and 400-gallon tank sizes. Two other models also available.

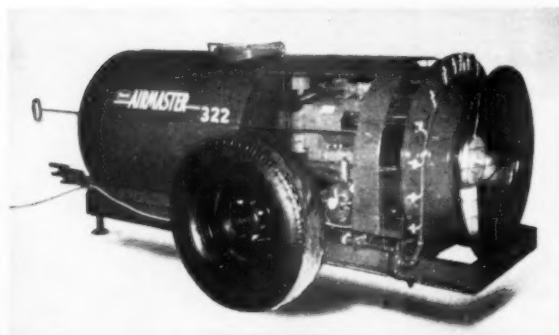


Buffalo Turbine CHS-2 can be furnished for liquid spraying only or combination for spraying and dusting. CHS-2 has 200-gallon tank with mechanical agitation, is equipped with two liquid nozzles.



Save spray material with Touch-Matic fingertip control of discharge featured in Myers 227 and 225 series. Tank has high capacity strainer, mechanical agitation. Diesel or gasoline engines.

More new sprayers on page 53



Friend 322 features adjustable air shields for one- or two-way spraying and right and left shut-off valves for nozzle manifolds. Designed for low clearance (54 inches), the 322 has 300-gallon tank.

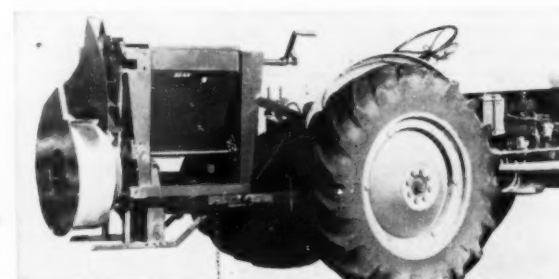
The New SPRAYERS for 1960



Choose either gasoline, LP gas, or diesel engine to power John Bean 501 C.P. Equipped with 500-gallon metallized tank, Prestomatic controls for complete remote control of sprayer from tractor.



Deliver 80 gallons per minute at 80 pounds pressure with Oliver 400 Air-Mist with 400-gallon capacity. Available in gasoline or diesel engine. Three lever spray control mounts on tractor fender.



Vary dust discharge from 0 to 15 pounds per minute with Bean-Niagara 110-OR orchard duster featuring power take-off, non-clogging dust feed. Discharge head rotates to any position within 180° arc.

California's

FARM LABOR DILEMMA

Immigration . . . education . . . lack of security . . . the lure of city lights are breaking up the farm labor framework and paving the way for the machine age in fruit growing in California

By WILLIAM J. MONAHAN

THE traditional framework of farm labor in California is under siege from revolutionary forces as the 1960 harvest season approaches in the nation's most prolific agricultural state. The onslaught stems from economic, political, and sociological leaven brewing in the crucible of a new society in the West.

The farm labor situation in California is radically different from that of midwestern or eastern states. There is no month of the year in which some commodity is not at its peak of production. Labor demand surges from a low requirement of 400,000 workers to a maximum need for close to 600,000.

Of the total work force about 180,000 are farmers or farm family workers. Another 125,000 are year-round employees. Still another group consists of 200,000 seasonal workers of whom 80,000 are classified as migrants.

Finally, there are the foreign workers, mostly braceros—meaning literally “arm workers”—who cross the Mexican border under contract. There are also crews from the Philippines and from Japan but their number is negligible when compared to the Mexicans. Last year there were 84,000 braceros employed in California, a substantial decline from the 1958 total of 100,000 Mexican contract workers.

For a dozen years a labor crisis has been brewing in California's farmlands. It came into focus last year when a new Democratic state administration confronted the farm community with legislative and administrative philosophies apparently designed to change in a season the whole fabric of farm employment.

Growers were able to check a blunderbuss attempt to ram through the State Legislature a minimum wage law that would have blanketed the whole farm economy. Through the summer and autumn harvest seasons the growers faced employment policies in state and federal agencies that were unsympathetic to general use of foreign labor and they felt

the propaganda lash of an adolescent farm labor union that was vociferous if not organizationally effective.

This year there will be no repeat performance of the 1959 tempest in the Legislature. Farm labor will be a delicate issue in the forum of an election year which will seat 100 of California's 120 senators and assemblymen and all of the state's representatives in Congress.

This will be a year of strategic engagements rather than major offensives in the battle maneuvers of opposing forces in the explosive farm labor issue in California.

Labor union task forces will haunt the orchards and fields from San Diego to the Oregon border seeking members for the Agricultural Workers Union among the 300,000 hired hands who flow up and down the West Coast in the wake of maturing fruits and vegetables.

Labor politicians will bring heavy pressures to bear to curtail or eliminate the importation of foreign workers, particularly the army of

braceros that for years has flowed north across the Mexican border to supplement the cultivators and the harvesters of crops in 25 American states.

At universities and experimental ranches, crash programs will be triggered to hasten automation for specialty crops that hitherto have demanded great numbers of manual laborers at seasonal peaks.

Farmers and union organizers will be watching with sharp eyes the handling of placement programs. The union will be viewing with suspicion the certification of foreign workers to make up harvest labor deficits. Growers will assess the extent of regulation in their labor recruitment and employment programs.

And, meanwhile, the drift of erstwhile and potential workers from farm labor to urban and industrial employment will go on unabated.

Elimination of the Mexican bracero from the farm picture in Cali-

(Continued on page 63)



A few workers sign up as members of Agricultural Workers Union in Marysville, Calif.

THE FRUIT AREAS OF AMERICA

By DAVID G. WHITE

Oklahoma State University, Stillwater

AS one of the younger states, Oklahoma produces more fruits than is usually realized. Almost every Oklahoma fruit grower personally started his own enterprise, a situation that is uncommon in most other fruit areas. Possibly the continued expansion of urban developments into fruit areas of other states will attract more professional fruit growers to Oklahoma where thousands of acres are well suited for several important fruits.

Oklahoma is a meeting place for northern and southern fruits because of the variation in climate. In the southeast corner, called "Little Dixie," there are 240 days in the growing season, over 50 inches of rainfall, and a mean annual temperature of 63.8° F. Snow seldom occurs. But in the northwest "Panhandle" there are only 180 days in the growing season, often less than 18 inches of precipitation, and a mean annual temperature of 53.6° F. Snow has been recorded there in every month except July and August.

The plains of the western two-thirds of Oklahoma have hot dry winds during summer while the eastern third is bathed by warm moist winds from the Gulf of Mexico. Although most fruits are grown com-

mercially in the hilly timber land of the eastern portion there are numerous exceptions as shown on the map.

The most important fruit crop in Oklahoma is the pecan. Native seedling pecans occur naturally on creek banks and river bottoms in 58 out of the 77 counties. Early pioneers cut pecan trees to harvest the nuts. More recently wild trees have been brought into cultivation

This tour of Oklahoma is the seventeenth in our series of articles on important fruit areas. Previous visits have taken us to New Jersey; East of the Cascades in Washington; California's Central Valley; the Ozark region of Missouri, Arkansas, and Oklahoma; New England; the Lower Rio Grande Valley of Texas; British Columbia's Okanagan Valley; Western New York; Georgia; Appalachia; Idaho; South Carolina; Michigan; Southern California; Nova Scotia's Annapolis Valley; and Oregon.—Ed.

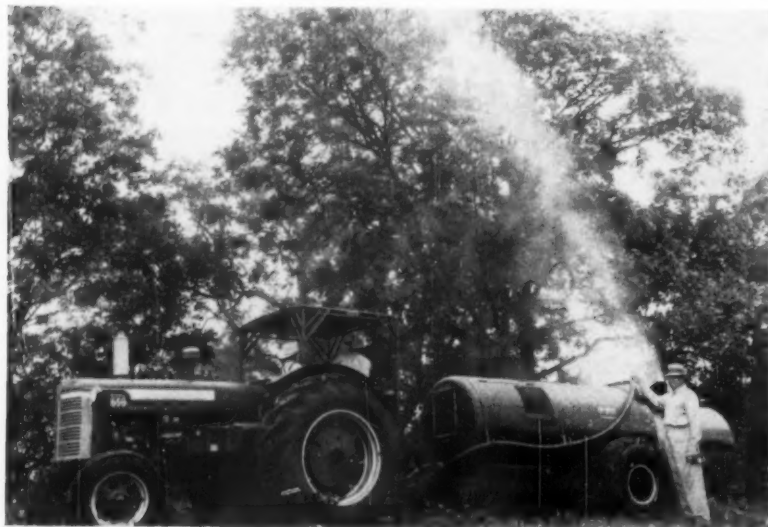


Jack Keathly, Marland, uses a tree shaker which he built for about \$100 to drop pecans.

and their nuts bring about the same price as paid for papershell varieties.

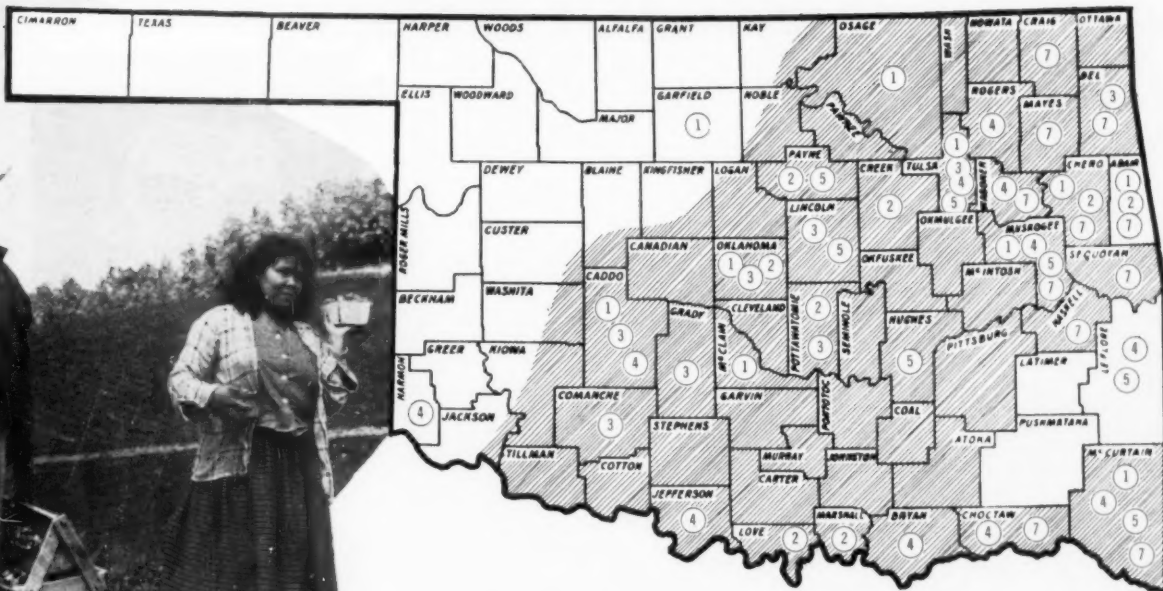
During the 10-year period of 1948-57, an average of 17,149,000 pounds of seedling nuts were produced in Oklahoma annually. This volume is second only to the seedling crop of Texas, which covers an area somewhat larger than Oklahoma. In addition, Oklahoma averages 1,471,000 pounds of varieties like Stuart, Success, and Mahan which have been planted or top-worked onto native seedlings.

Native seedling pecans are brought into cultivation after all the other timber and brush are removed. Growers thin the stand of pecan trees on the basis of productivity, size of nuts, disease resistance, time of maturity, and percentage of kernels versus shells.



Large tractor is needed by Charles Pfile, right, of Waurika, to pull spray rig through wet soil in pecan groves. He applies two to three sprays in early summer for insect and disease control.

OKLAHOMA

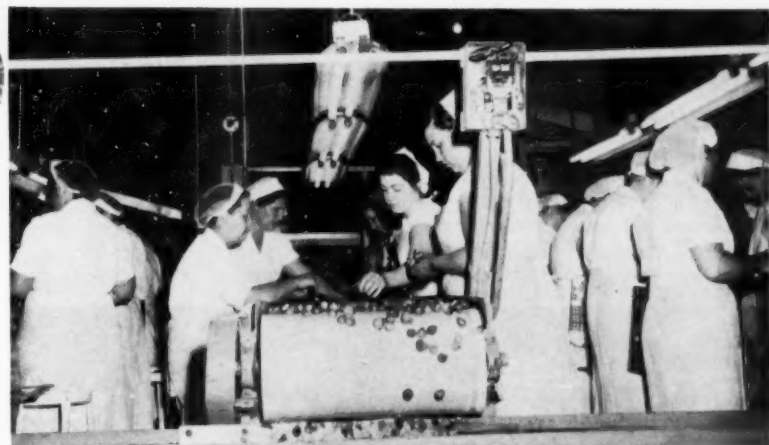


Indian couple picks strawberries in John Brown's 20-acre planting. Blakemore is leading variety.

Since pecan roots do not have root hairs and since the roots usually extend further from the trunk than the height of the tree, crowded trees compete seriously. Often only a dozen large trees per acre will yield far more nuts per acre than two dozen trees on the same area. Properly spaced trees cultivated and fertilized will average 50 pounds or more of nuts per year.

The average commercial grove ranges from 100 to 500 trees. Although pecans are harvested and sold from about 15,000 Oklahoma farms, it is interesting to review the crop as it is handled on a larger scale.

For example, near the town of Waurika a few miles from the Red River of southern Oklahoma, Charles Pfile began developing pecan groves on his 1000-acre ranch before World War I. Only about one-tenth of the original pecan trees have been left. Over 250 acres of his lowlands produce more than 100,000



Strawberries to be packed frozen are checked by women employees at Stilwell Canning Company, Stilwell. About 80% of the total berry crop in Oklahoma is frozen by the company.

pounds of nuts in favorable years. Approximately two-thirds of his trees are selected native seedlings and the remainder are seedlings he has top-worked with the varieties Burkett, San Saba Improved, Success, and Western. Usually spring rains flood his groves to depths of almost 6 feet but the trees thrive because the deeper soil remains moist in dry weather.

In early summer Pfile applies two or three sprays to control insects and diseases, primarily the case-

bearer and scab. In early fall he disks his groves and sows a mixture of rye and vetch, which helps to prevent erosion and to maintain organic matter. In addition, more than 100 cattle utilize this cover crop for a winter pasture, a common practice called "two-story" farming.

Harvest of nuts on the Pfile ranch is started in November and often continues through February. The pecans are shaken from the trees by a padded 40-foot pole boom mounted

Continued on page 60)

STATE NEWS

The Business Side of Fruit Growing

WASHINGTON, D.C.

Study Apple Marketing

A BROAD program of research in apple marketing has been instituted by National Apple Institute. The program is based upon recommendations of the institute's research committee.

Generally the program will: 1) assemble and evaluate all research on apple marketing that has been done or is being done; 2) push immediately for factual research in several critical areas of apple marketing in which no real work now is available; and 3) work toward organizing into a comprehensive, unified pattern the apple marketing research of the several federal, state, and other agencies.

WASHINGTON

Research Program Underway

A PROPOSED research program in the field of consumer packages for fresh market peaches was endorsed in Yakima recently by directors of Washington Freestone Peach Association. Purpose is to develop retail size packages with maximum eye appeal and acceptance by the retail shopper.

Effective March 1, Cecil C. Clark, Wapato, state legislator and grower, became the association's secretary-manager on a temporary basis. He replaced A. J. Anderson, Zillah, manager of Washington Cherry and Apricot Marketing Committees, who

resigned to devote more time to quality control programs.

In resigning from his duties as secretary-manager of the Freestone Peach Association, Anderson reaffirmed his faith in grower controlled organizations and pledged his continued support of the peach association. He pointed out the vital need of growers, regardless of size, to band together in maximum strength in order to obtain their economic rights in the market place.

To replace their packing plant which will be inundated by water from Rocky Reach Dam, Entiat Warehouse Company is constructing a modern plant and cold storage.

Food Industries Research & Engineering, Yakima, has designed the \$500,000 facility which has a cold storage capacity of 240,000 boxes. The new packing equipment and building layout is designed to handle any type pack the market demands.

Construction will be completed in time to handle the 1960 fruit crop.

VIRGINIA

Accent on Co-operative Selling

"WHERE is the apple industry going?" asked Virginia fruit growers at their 64th annual meeting in January.

An interesting program of speakers gave plenty of answers—and they all seemed to point to more effi-



Philip B. Gloize, Winchester, was re-elected president of Virginia Horticultural Society for 1960. John Watson, Staunton, continues as secretary-treasurer.

ciency in fruit production and more co-operative effort by growers in marketing.

Ralph Bunje, manager of California Canning Peach Association, put his finger on a vital selling point when he called for a philosophy of co-operative individualism in solving marketing problems.

Bunje told the apple growers that cling peach producers have a very real interest in the price of apple sauce. A 30-cent can of peaches has a hard time competing with a 12-cent can of apple sauce, he said. He urged apple growers to get together to obtain a fair price for their product.

Bunje, who is the outstanding fruit marketing expert in the nation today, graphically sketched the rapid changes taking place in the marketing system.

The bargaining association is a creator of new standards of values, Bunje emphasized. The aim is a price that will bring a reasonable profit to the efficient producer and handler, and product acceptance from the consumer.

Virginia's apple marketing plans were outlined by J. Kenneth Robinson, who told growers that strong efforts will be made this year to establish bargaining with canners. (See "Let's Quit This Waiting Game!" page 34.)

A panel of experts, moderated by Jim Laise, assistant sales manager, H. F. Byrd, Inc., explored alternatives to price-cutting to sell apples.

Pennsylvania grower Bill Lott told how growers in Adams County sponsor an apple blossom weekend



VIERHELLER HONORED

Being congratulated, above right, is A. F. (Dutch) Vierheller, secretary-treasurer of Maryland State Horticultural Society for 35 years. He was presented a portable television set in appreciation of his long service to the society which held its 62nd annual meeting in Hagerstown in January. Also pictured are D. Eldred Rinehart, president of the society, who made the presentation, and Mrs. Vierheller. Vierheller was re-elected to his 36th term at the meeting. This year concludes Vierheller's 35th year with Maryland extension service, College Park. He retired on February 1.

CYPREX® 65-W... NEAR-PERFECT FUNGICIDE FOR CHERRY LEAF SPOT

*This entirely new fungicide — from Cyanamid —
is the most important development
in cherry disease control in a decade.*

For the past five years, Cyprex 65-W has been used in hundreds of trials for the control of cherry leaf spot. On the basis of performance, here's what you can expect:

1. *Up to 7 times better control of cherry leaf spot than ever before possible with other commonly used fungicides.* Cyprex takes dead aim on "Coccomyces hiemalis," the fungus that causes cherry leaf spot. Growers, who used Cyprex in cooperation with experiment stations, reported control that approached 100%. In many cases this resulted in 85% less leaf spot (7 times better control) than other commonly used fungicides had been giving.

2. *Extended residual action.* Cyprex stays on to protect leaves longer than any other commonly used fungicide. Here's why: First, it spreads itself around, thoroughly covers the entire leaf. Second, it sticks. It resists the harshest weathering. This is particularly important for post-harvest application. *One post-harvest Cyprex application has consistently kept leaves on the trees into October.* With other fungicides, at least two, post-harvest sprays would be necessary.

3. *Automatic redistribution of residues.* When it rains, some Cyprex residue is washed onto nearby new growth that has emerged since the previous spraying. The washed residues actually stick to and protect this new growth. However, enough Cyprex remains on the originally sprayed areas to maintain pro-



Here's what Michigan grower Charles Zollar says about Cyprex, "This picture was taken late in September. Leaf spot has almost defoliated the tree to my right. But look at the one protected with Cyprex. That tree is going to make me money next year."

tection. (See diagrams on page 42 in this issue).

4. *Other advantages.* Cyprex protects fruit quality as well as yield. It is compatible with most commonly used insecticides and other fungicides. Cyprex is non-caustic and low in toxicity. When used as directed, it presents no hazard to orchard workers.

How to use Cyprex

Cyprex is accepted for use on sour cherries and non-bearing sweet cherries. The recommended rate is ½ lb. of Cyprex 65-W per 100 gallons. Make first application when first leaves unfold or at petal fall, then continue through the season at 7 to 10 day intervals.

One, post-harvest application is recommended.

In some areas, lower rates of

Cyprex have given excellent control of leaf spot. Local authorities can advise you on the most efficient schedule for your area.

Write for free leaflet PE 5061. American Cyanamid Company, Agricultural Division, 30 Rockefeller Plaza, N. Y., N. Y. *Cyprex is American Cyanamid Company's trademark for dodine fungicide.

Where to get Cyprex 65-W

Cyprex, a product of American Cyanamid Company, is available in 25 and 50 lb. drums through your dealer or manufacturer's farm representative.

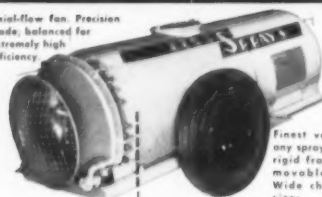


CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE

"NO MORE PROBLEMS"

**FOR THE GROWER WHO
WANTS THE VERY BEST
in a complete unit!**

Axial-flow fan. Precision
made, balanced for
extremely high
efficiency.



Finest valves in
any sprayer. Most
rigid frame. Re-
movable tank. Wide choice of
sizes.



BES-SPRAY welcomes the
chance to match its worth,
dollar for dollar, against
ANY OTHER SPRAYER!

BES-SPRAY
air-carrier
SPRAYERS

For the Grower
Who Wants to

Save \$2,000 on a **BES-SPRAY**
POWER PACKAGE

Complete Bes-Spray sprayer—less tank and
trailer. Install it (8 man-hours) on trailer with
tank and save up to \$2,000!

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For **HEAVY DUTY** Tilling
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IS UNEQUALLED FOR
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Compare all heavy duty tillers, feature by fea-
ture, and you'll see why Ariens Trans-A-Matic,
with non-slip differential, can't be equalled at
any price. Two heavy duty models: TA 20A with
9 h.p. Wis. engine; TA 28B with 16.5 h.p. Wis.
engine. For complete information see your dealer
or mail coupon.

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Mail to: **ARIENS COMPANY**
139 Calumet St., Brillion, Wisconsin
Send free **TRANS-A-MATIC** Literature

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Address _____

City _____
Zone, State _____



THE QUEEN AND HER COURT

Shown above at annual meeting of Georgia Peach Council are newly elected directors and officers with Georgia Peach Queen, Miss Carol Evans, of McDonough. Left to right are J. F. Duke, Sr., and Bennett Rigdon, Ft. Valley; H. G. Riggins, Woodbury, president; William J. Wilson, Ft. Valley; C. L. Mason, Madison; Edgar Duke, Jr., Ft. Valley, first vice-president; Hubert Hancock, Thomaston; Ralph Tabor, Ft. Valley; W. A. Meadows, Cochran; Ray L. Livingston, Athens, adviser.

to help promote apples. He emphasized what growers can do by working together voluntarily.

L. A. (Steve) Putnam, manager, Lake Ontario Fruit Growers Co-operative, told about co-operative selling, its possibilities and advantages. He emphasized that members must be good co-operators and sincere in their intent.

Henry W. Miller, Paw Paw, W. Va., gave five reasons why a grower cuts prices:

- 1) He lacks information about the actual cost of his fruit.
- 2) He fails to build a good reputation for his pack.
- 3) There are too few buyers and too many sellers.
- 4) He gambles on the market to get top price and ends up the season with a lot of over-mature fruit.
- 5) His sales volume is not big enough to interest large cash buyers.

Emphasizing that this is a day of standardization and quality control, Miller said that something must be done about the multitude of apple grades in this country.

Resolutions passed recommended that Food and Drug Administration delay until March, 1961, the necessity for clearance for the use of fruit thinning spray chemicals. The recently amended Federal Insecticide, Fungicide, and Rodenticide Act provides that nematocides, plant regulators, defoliant, and desiccants must receive label clearance by March 5, 1960, unless an extension is granted.

Another resolution called for standardization of apple grades throughout the industry with investigation of the possibility of making condition part of grades. The Virginia Society also recommended that investigation be made

looking into the possibility of marketing orders.

GEORGIA

More Peaches Predicted

PEACH disease and insect control, marketing, and peach varieties were the topics heading discussion at the annual meeting of Georgia Peach Council January 22 at Fort Valley.

Nearly 250 Georgia peach growers attended the meeting, and to discuss their problems a battery of 19 peach experts from USDA, business, and the University of Georgia College of Agriculture were on the program. One key speaker was J. W. Fanning, chairman, division of agricultural economics at the university.

Speaking on the economic outlook, Fanning said that because a lot of young peach trees are coming on, peach growers can reasonably expect increased production in the next few years.

"This increased supply," he said, "could outdo demand at a price that growers may not consider fair in relation to their costs of production."

On the more encouraging side, Fanning said there were two factors that could increase the demand for peaches—the prospect for higher per capita income and greater urbanization.

Leading a panel discussion on production problems was Ray Livingston, peach council adviser and horticulturist for Georgia Agricultural Extension Service. Livingston pointed out how Georgia growers had done a good job of improving the quality of their peaches.

"In 1952," he said, "only 48% of Georgia peaches graded out as U. S.

AMERICAN FRUIT GROWER

"NO MITE PROBLEM!"

with **GENITE**[®]

Amazing **"SURE-SHOT"** Spray

For Early Mites

Like grower E. R. Tam, thousands of profit-minded fruit growers, coast to coast, now depend on Genite Miticide to protect their crops against European red mites and clover (brown almond or bryobia) mites. Here's why:

Effective far into summer!

Genite Miticide is so effective just *one* spraying will protect your fruit trees (apple, pear, plum, prune and peach) far into summer. You'll need to make fewer late season sprays...cut down mite populations so effectively control results will often continue into the following year.

Safe to use!

Genite Miticide kills mites and their overwintering eggs *before fruit formation*. When sprayed on trees between delayed dormant and full bloom, it can't injure fruit...won't damage trees or buds. What's more, Genite Miticide is virtually non-toxic to bees and other useful insects when used as directed. It kills mites—and mites only!

Easy to use, economical!

Genite Miticide comes in both 50% emulsifiable and 50% wettable powder forms. Both are easy to apply and are widely compatible with other spray materials. Economical, too! Only 1 to 1½ pints of emulsifiable or 1 to 1½ lbs. of wettable powder are needed for each 100 gals. of water.



"In 1959 we changed to Genite for our miticide and for the first time in years we did not have a mite problem. Even though we had heavy egg deposits in early spring, Genite did the job . . . gave us no mite problem and more profit."

E. R. Tam, Jr., Burnettsville, Indiana

For Added Effectiveness, add

PLYAC* Polyethylene
Spreader-Sticker!

Plyac is Allied Chemical's amazing new non-oil spreader-sticker that improves the efficiency of all sprays. Makes them stick better and last longer, even in rainy weather when other sprays wash off easily. Result: with Plyac spreader-sticker you prolong killing action . . . stretch spray effectiveness . . . reduce the amount of re-spraying necessary. Plyac spreader-sticker is easy to use and economical, too! Comes in convenient liquid form. Only 2 to 4 ounces are usually required for each 100 gallons of spray mixture. For best protection, make it Genite for mites and Plyac for all sprays!

*Trademark of Allied Chemical Corporation

*Serving agriculture
from coast to coast*



GENERAL CHEMICAL DIVISION

40 Rector Street, New York 6, N. Y.

Poison Ivy grows where your men work.



THEY CAN'T AVOID IT!

BUT AQUA IVY TABLETS CAN MAKE THEM IMMUNE TO POISON IVY, POISON OAK!

Poison ivy (called poison oak in many areas) grows in almost every state, in most rural areas. That's why your men can't avoid exposure.

And that's why Aqua Ivy's immunity makes so much sense. Immunity means protection-from-within, protection that your men carry with them wherever they work. Not a lotion or an ointment, but an easy-to-take tablet, Aqua Ivy's protection lasts up to 12 months.

Aqua Ivy AP® Tablets are safe—no harmful side effects. And they work—proven effective in 95% of cases.

Available in an economical, industry-sized bottle containing 1,000 tablets. Thus, for just a few dollars per employee, you can provide your men with season-long immunity! (And this cost is invariably saved many times over in reduced absenteeism.)

REMEMBER: It takes time to build full immunity. So order Aqua Ivy Tablets now, before the poison plant season starts. Available through your regular drug channels in the United States and Canada.

YOURS FREE: For distribution to your men, quantities of Aqua Ivy's informative booklet "Facts You Should Know About Poison Ivy and Poison Oak". Also a "Poison Plant Recognition Poster" to tack on bulletin boards.

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SYNTEX CHEMICAL COMPANY, INC.
P.O. BOX 117, NEW YORK 11, N. Y.

Please send _____ Free booklets and _____ posters.

Company Name _____

Street Address _____

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No. 1, but in 1958, 82% were marketed as U. S. No. 1."

Peach varieties were discussed by Victor Prince, horticulturist, USDA, Agricultural Research Service, Fort Valley.

Prince said many growers were not getting all the information possible about a variety before planting it and that some had lost money by not obtaining more information.

He said, that with many new varieties coming out, growers should be careful to pick varieties that were good producers, adapted to the area, and that produced a shipping quality peach.—Donald K. Childers.

FLORIDA

Citrus Promotion

ANNUAL spending by Florida Citrus Commission today is more than six times what it was in 1936-37, a year after the agency was formed. This figure is revealed in a financial report covering a seven-year review of the commission's budgets.

In 1936-37 the commission spent a total of \$774,000. Today's spending amounts to almost \$7 million annually. The report shows that about 70% of the budget was for consumer advertising the first year. Now consumer advertising is estimated at about 62% of the entire budget.

Citrus promotion reached a new high in January when more than 100,000 witnessed the 35th annual Florida Citrus Exposition parade in Winter Haven. This was the

largest crowd ever to attend the citrus exposition which began as a local event but has since developed into a week-long attraction of statewide scope and major tourist appeal.—E. G. K. Meister.

ILLINOIS

Bryce Named Manager

NATIONAL Red Cherry Institute, Chicago, recently announced the appointment of James Bryce as manager of their organization. He assumes the duties formerly performed by William Powell, who is now on the staff of a weekly supermarket newspaper.

NEW YORK

Marketing Strength Needed

ONCE there was someone who would sell fruit at a profit for the grower, but that day is past, speakers told growers at the annual meeting of New York State Horticultural Society. Today there are so few buyers and they have so much strength that higher costs are being passed back to the grower instead of on to the consumer.

Ed Fallon, manager of GLF (Grange League Federation), reported that in 1948 the average family spent \$982 for food, of which \$497 went to the grower. In 1958, \$1065 was paid and the grower got only \$427. If the grower had been sufficiently strong to pass increased costs of production on to the consumer, in 1958 he would have re-



NATIONAL GRAPE CO-OP BURNS MORTGAGE

Douglas M. Moorhead, president, National Grape Co-operative Association, Westfield, N. Y., lights a match to the mortgage on Welch Grape Juice Company. Holding the mortgage is Jack M. Kaplan, former president of Welch, whose interest in the grape growers' welfare resulted in the purchase of Welch by National in 1956. The 3200-member co-op now has complete ownership of Welch. Also pictured is W. R. Stebbins, first vice-president and a charter director of the co-op.

AMERICAN FRUIT GROWER

ceived \$600 or \$700 instead of \$427, Fallon estimated.

Max Brunk, Cornell University, told growers there are three things that can be done to gain marketing strength: Bargaining associations, grower-owned co-operative selling, and marketing orders.

Brunk recommended that growers consider marketing orders to obtain funds for research as well as promotion. Marketing orders also can be used to control supply, and are best used to restrict supply, he said.

For co-operative selling organizations, Brunk said, growers must be willing to relinquish their option of selling and delegate this authority to a central agency. He said it should sell processing apples as well as fresh which would increase his leverage on the buyer.

Virginia's Ken Robinson advised New York growers to join with Appalachian area producers in forming a bargaining association. (See "Let's Quit This Waiting Game!" page 34.)

But some New York growers were hesitant, feeling that bargaining would not work unless there was some control over the supply by means of perhaps a marketing order.

New York has taken several important steps to gain marketing strength. One is the marketing order passed last June which raises funds for promoting apples. The GLF-financed consolidation of two rather weak grower-owned processing co-ops into Seneca Grape Juice Corp., adds strength to processor prices. Lake Ontario Fruit Growers, a grower-owned co-operative sales organization, is gaining in strength and is a step in the right direction.

Bold action is needed, said Max Brunk. New York's leaders are watchful but seemingly undecided about the details of the next step.

Resolutions passed urged that additional funds be allocated to find new sprays to control red-banded leaf roller, more pear research.

It was recommended that farm labor regulations continue as the responsibility of New York State and not the federal government.

Another resolution asked for legislation to permit relief from work stoppage due to refusal of labor organizations to handle perishable farm products during labor disputes.

A final resolution asked that administration of New York state laws regulating pesticides and additives be vested in New York Department of Agriculture and Markets.

Elected president was Thomas W. Albright, Athens; vice president, Cameron Nichols, Lewiston; secretary-treasurer, Tom LaMont, Albion.

MARCH, 1960

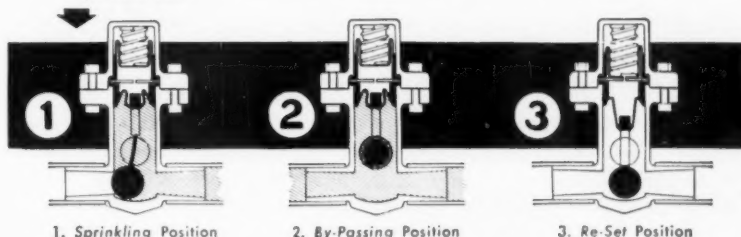
Attention, Fruit Growers

SHUR-RANE Sequa-Matic Irrigation



Sequa-Matic Unit

**"SEQUA-MATIC"
VALVE with
Simple 3-Stage
Operation**

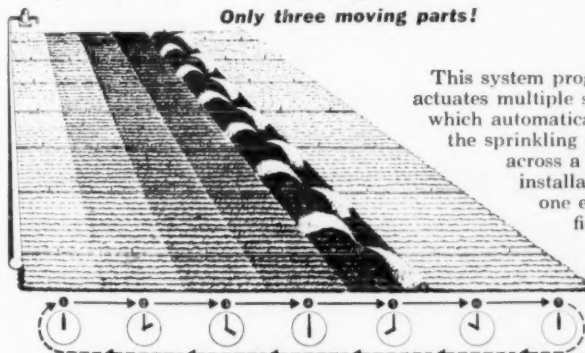


1. Sprinkling Position

2. By-Passing Position

3. Re-Set Position

Only three moving parts!



This system progressively actuates multiple sprinklers which automatically move the sprinkling operation across a grid-type installation from one end of the field to the other.

A typical 40-acre system may use up to 52 laterals.

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Gentlemen:
Please send me complete information on:

- ☐ Sequa-Matic Irrigation
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☐ Farmer ☐ Student ☐ Dealer



Growers report complete



"Least expensive of all miticides"

"*ORTHO* MITOX is the least expensive of all miticides I've ever used because one spray did the job for the whole growing season," reports Mr. David Simpson, owner of the 450 acre Simpson Orchards Co. at Vincennes, Indiana. "*ORTHO* MITOX really controls the over-wintering eggs and nymphs, preventing damage to trees — this pays off in a better bud set the following year."

For Better Quality Fruit—Control Mites with *ORTHO*® MITOX

The outstanding residual miticide, *ORTHO*® MITOX provides excellent control of European Red Mite for as long as three months with only one thorough application. It is particularly effective in the destruction of egg populations, preventing red mite "build-up" during the growing season. And, *ORTHO*® MITOX is compatible with most insecticides and fungicides.

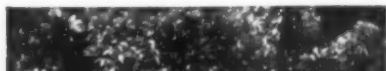
Scientifically trained Fieldmen located in all the Nation's fruit growing areas.

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Sacramento, California
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Haddonfield, New Jersey

Columbia, South Carolina
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Orlando, Florida
Springfield, Massachusetts



GRAPES

Although sprays of DDT have been outstanding for the control of grape insects, they are not entirely

mite control with one application!



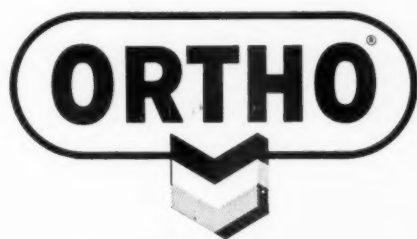
"Long lasting action on red mites"

Apple grower Howard Whelehan of Rochester, New York, reports these excellent results after applying *ORTHO* MITOX during the pink stage: "I didn't have to spend time and money spraying additional miticides for the rest of the season. *ORTHO* MITOX really proved itself to me—it has a long lasting action on red mites, and doesn't hurt the beneficial insects."



"Excellent control for the past two years"

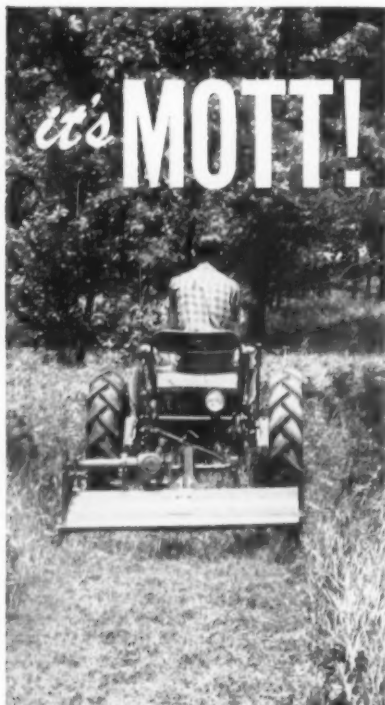
ORTHO MITOX proved excellent in controlling our mites during the past 2 years," reports James H. Meyers, owner and Stanley Eye, Orchard Foreman, of the 200 acre Norwood Orchards near Harpers Ferry, W. Va. (pictured above, right to left, with *ORTHO* Fieldman Bill Long). "We experimented with check plots and found that one application of *ORTHO* MITOX gave us complete mite control for the entire season."



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California Spray-Chemical Corp.
A subsidiary of California Chemical Co.

T. M., REG. U. S. PAT. OFF., MITOX ON ALL CHEMICALS, READ DIRECTIONS AND CAUTIONS BEFORE USE.



Regardless of conditions

... grass height or ground roughness, the MOTT Hammer Knife mower makes short work of orchard grooming. Close-in, around and under trees, cuts and shreds tall grass, weeds, and unwanted sprouts into a fine mulch. Deposited right where they are cut, they hold moisture and condition the soil with natural humus for greater yields. Minimizes soil erosion, too!

Safe . . .

The unique flail-type cutting action deflects the shredded clippings to the ground. Not so much as a blade of grass is tossed sideways. There's no danger of flying sticks, stones, and other debris.

Dual Economy . . .

MOTT is low in operating costs and maintenance cost. Proven in actual use to stand up under the most adverse mowing conditions. The free-swinging blades can be sharpened repeatedly and eventually replaced at dime store prices. 32 models include 18 in. hand — to 4, 5, or 6 ft. rear and underslung tractor mounted models.

Try the MOTT Hammer-Knife under your own mowing conditions — then compare! Learn why you can mow with MOTT where others cannot!



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GRAPES

Improved Insect Control

MORE than 200 species of insects attack grapes. Fortunately very few of these are serious pests. In the Lake Erie Valley the most troublesome are the grape berry moth which is primarily destructive to the fruit; the grape leafhopper, a pest of the foliage; the grape flea beetle which damages the opening buds and the larvae of which feed on the leaves and clusters; the rose chafer which attacks the blossom clusters; and the grape root worm, usually considered a pest of the roots, although the adult beetles feed on the leaves.

During the last 50 or more years losses due to these insects have been great. At one time the grape root worm threatened the entire grape industry. The grape leafhopper has been uniformly present and widely distributed and probably has levied a heavier toll to the grape vine than any other pest.

Infestations of the grape berry moth have been erratic but at times this insect has been very destructive and it is not uncommon to find 50% of the fruit injured by this pest. Losses due to the grape flea beetle and the rose chafer have not been great, as these insects are not widespread.

In 1944, with the development of the new and more effective insecticides, a new era opened for control of grape insects. DDT was the first organic insecticide to be used. The results were quite outstanding and for the first time in the history of grape culture, in the Erie grape belt, growers were able to control grape insects.

Experiments over a period of years have shown that DDT is quite specific against the grape leafhopper. In fact, one application of DDT used at the rate of one-fourth pound (actual toxicant) to 100 gallons of spray will give satisfactory control.

The grape berry moth is more difficult to control and usually requires three applications of DDT, at the rate of three-fourths pound (actual toxicant) to 100 gallons. The first spray is applied soon after the berries set. A second application is made 10 days after the first. And the third spray is applied, late July or early August, to combat the second generation of the pest.

Since the grape berry moth is more difficult to control and sprays are directed against this pest, little or no attention is given to the control of the grape leafhopper.

Although sprays of DDT have been outstanding for the control of grape insects, they are not entirely satisfactory, as the residue of the fruit at harvest is likely to be higher than the legal tolerance (7 ppm) permitted on fresh grapes.

Experiments have shown that a split schedule of two sprays of DDT, followed by one application of one of the phosphate insecticides in early August, will give excellent control of grape insects. Grapes



Grape cluster injured by berry moth larvae.

sprayed with this schedule are well under the legal tolerances permitted on fresh fruit.

Some of the materials that have given satisfactory control of grape insects and leave no harmful residue on the fruit at harvest are: 15% parathion, W.P., 1.5 pounds; 25% EPN, W.P., 1 pound; 25% Diazinon, W.P., 2 pounds; 25% Guthion, W.P., 1 pounds; 50% methoxychlor, W.P., 2 pounds; and 50% Sevin, W.P., 2 pounds to 100 gallons.

Now after more than half a century of careful research work by many investigators, control measures have been developed for the principal insects of grapes. None of the insects have been eradicated, and probably never will be, but we have learned how to control them. We have become resigned to the fact that sprays are just as important to the production of grapes as proper cultivation, fertilization, or pruning. —James A. Cox, Entomologist, Erie County Field Research Laboratory, North East, Pa.

THE QUESTION BOX

Don't be perplexed! Send us your questions—no matter how big or small. A 4-cent stamp will bring you an early reply. Address: The Question Box, AMERICAN FRUIT GROWER, Willoughby, Ohio.

BOSC, ANJOU, OR BARTLETT

What do you think about Bosc and Anjou pears for commercial production here in the southwestern part of Pennsylvania? This is in addition to the Bartlett, which does well for us.—*Pennsylvania*.

Bartlett and Bosc are your best bet. Anjou is all right, but not so popular for your area.

Pears are grown on a very limited scale in your area, and you should have an excellent market for them. Carl Bittner, Pennsylvania State University, feels this market will be practically unlimited in the foreseeable future, but advises against plunging into the operation.

ZINC PHOSPHIDE NEEDED

I have the pleasure of being a subscriber to your excellent magazine. Will you please supply the name of a manufacturer of zinc phosphide, used as a mouse poison?—*New Brunswick, Canada*.

Carajon Chemical Co., P.O. Box 167, 426 West Main St., Fremont, Mich. (Force's Mous-Con); Gallard-Schlesinger Chemicals, Inc., 37-11 29th Street, Long Island City 1, N.Y. (GSCI Zinc Phosphide); Kilgore Seed Co., 1039 West Cypress St., Gainesville, Fla. (Kilgore's Zinc Phosphide).

WHAT NUTS FOR ALABAMA

I recently purchased land in Chilton County, Alabama (about 50 miles south of Birmingham), and I want to plant nut trees on it as well as high bush blueberries.

I had in mind pecans, walnuts, butternuts, heartnuts, filberts, hickory nuts, blueberries, and figs. Which varieties do you think will do well there?—*Michigan*.

J. C. Moore, Auburn University, recommends the following varieties for Chilton County:

Pecans: Stuart, Desirable, Elliott, Farley, and Curtis.

Black walnuts: Thomas, Ohio, and Stabler.

Hickory: any variety.

Heartnut or Japanese walnut: any variety.

Blueberries: Homebell, Coastal, Callo-way, Dixi, Earliblue (all rabbiteye blueberries).

Success with other nuts and with figs is questionable. Bear in mind that peaches are better adapted to Chilton County than any of the above fruits and nuts.

STICKTIGHT TROUBLES

I had a lot of trouble harvesting my almonds because the hulls stuck tightly to the almonds. It took my hulling machine twice as long to handle these "sticktights" and many almonds were damaged.—*California*.

One of the most common causes of sticktights is lack of soil moisture during the period when the hulls are opening. If you find spots in your groves where trees produce sticktights, make a record of the locations. Next year, check the soil moisture with an auger after irrigations to see whether water is penetrating deep enough. If water penetration is not deep enough, hold the water longer on these spots. Check soil moisture several times between irrigations. The soil moisture may be exhausted in these spots before most of the orchard requires an irrigation.

MARCH, 1960

Myers improved air performance



gives greater protection reduces spraying cost

High Pressure Centrifugal Pump and Myers drive-mist nozzles produce ideal spray droplet size.

Twin Centrifugal Fans put high volume of air directly into tree foliage.

Tapered Air Outlets direct proper air-spray mixture into foliage for maximum penetration and coverage.



Touch-Matic Control gives operator quick stop-start action, keeps waste at a minimum, greatly reduces spraying costs.



232 series
80,000 CFM class



227 series
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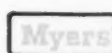


225 series
45,000 CFM class



A36 series
30,000 CFM class

Prove to yourself —ask the Myers sprayer dealer nearest you for a demonstration of a Myers air or gun sprayer in your own grove or orchard, or write to:



The F. E. Myers & Bro. Co.
ASHLAND, OHIO KITCHENER, ONTARIO



start off with KOLODUST-100 or KOLO-100 (SPRAY)

for effective, economical control of scab, brown rot, mildew

— One fungicide — Kolodust-100 for dusting or Kolo-100 for spray application — gives you an early-season apple or peach program that can't be equalled for effectiveness, economy and safety.

Two-way Control. The Kolo-100 materials are balanced formulations of fused bentonite sulfur and dichlorone, both proven orchard fungicides. These chemicals team up to give positive control of both scab and mildew . . . eradicant kick-back as well as protective action. The combination is equally effective against brown rot on peaches.



FOOD MACHINERY AND CHEMICAL CORPORATION

Niagara Chemical Division

Middleport, N. Y.; Richmond, Calif.; Jacksonville, Fla.; New Orleans, La.; Ayer, Mass.; Harlingen, Texas; Yakima, Wash.; Greenville, Miss.; South Haven, Mich.

Canadian Associate:

NIAGARA BRAND CHEMICALS, LTD., BURLINGTON, ONT.



Low-Cost Control. You save money because double-action Kolo-100 — inexpensive to begin with — costs less to apply than separate eradicant and protectant treatments in the early spring. And you don't need any special mildew sprays.

Safe Control. Unlike some early-season "economy" fungicides, Kolo-100 will not harm foliage or young developing fruit. There's no russetting to spoil your prospects of a fancy crop in the fall.

Growers on Kolo-100 programs report their "cleanest ever" crops. You can get off to a clean start, too, by contacting your Niagara field man. He will tailor a program to your needs.



from bloom on, use NIACIDE fungicide

for a crop that's tops in finish, color and yield

— After the onset of bloom, you need a fungicide that's death on scab and other diseases, but easy on blooms and the tender finish of young fruit. Niagara Niacide fills both bills.

You can't get better control of scab than Niacide provides. And Niacide is exceptionally bland. No matter how foul the weather at the critical formative stage, fruit won't develop a rough finish due to Niacide. Niacide is safe then . . . safe right through to harvest. It leaves no spots on fruit or foliage . . . is so mild that even the most russet- and netting-

prone varieties mature naturally . . . without blemish.

You'll find Niacide compatible with other orchard chemicals too. Other advantages: There's no danger of promoting the spread of mildew, a side effect experienced with some other fungicides. And Niacide apples keep better in storage.

Prize-winning growers in all sections of the country give Niacide credit for crops unsurpassed in overall quality and yield. It can do the same for you. Ask your Niagara field man for further details. He will be glad to plan a Niacide program that will protect your orchard from bloom on . . . right through to a more profitable harvest.



FOOD MACHINERY AND CHEMICAL CORPORATION

Niagara Chemical Division

Middleport, N. Y.; Richmond, Calif.; Jacksonville, Fla.; New Orleans, La.; Ayer, Mass.; Harlingen, Texas; Yakima, Wash.; Greenville, Miss.; South Haven, Mich.

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NIAGARA BRAND CHEMICALS, LTD., BURLINGTON, ONT.





BEAN - NIAGARA DUSTER

Complete coverage, faster rate-of-work, big capacity — get all these advantages with the Bean-Niagara 110 Series Duster. Powerful 2000 r.p.m. blower produces 3700 c.f.m. air volume for positive, all-over coverage. Blower head rotates 180° for right or left discharge. Mechanically agitated, 200 lb. hopper with positive feed control assures uniform, non-clogging feed. 3-point mounted, P.T.O. — driven, convenient tractor-seat controls.

For low cost air spraying, see John BEAN Speedaire attachments

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"OUR FITCHBURG CHIPPER IS ONE OF THE BEST INVESTMENTS I HAVE EVER MADE..."

says J. W. Hulbert of Nobscott Mountain Orchards, S. Sudbury, Mass.

Like so many orchardists, Mr. Hulbert found that a Fitchburg Chipper quickly paid for itself by reducing prunings to moisture-holding wood chips. Brush hauling is eliminated. Wood chips keep weeds down, give orchards better tilth, better moisture-holding capacity, finer fruit.

FREE CHIPPER FACTS

Get all the facts. Write for free folder. Tells how to increase orchard production at lower costs. Address Dept. AFG-63.



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FITCHBURG, MASSACHUSETTS

BERRIES

Weed-Free Strawberries

A GRANULAR weed killer, R-H Weed Rhap-20, has proven effective in the control of crab grass and broad-leaved weeds in strawberry plantings. This granular 2,4-D, made by Reasor-Hill Corporation, Jacksonville, Ark., is a growth regulator and must be applied during the time of good growth for satisfactory weed kill. It is long-lasting in its control of weeds, from early growth of strawberry plants through fruiting, making it an effective time and labor saver.



Strawberry beds cleaned of weeds and grasses by granular 2,4-D, R-H Weed Rhap-20. Beds were treated 12 weeks prior to this photo.



Uncontrolled weeds and grasses in adjacent, untreated beds. Treatment with granular weed killer must be made early in growing season.

Strawberry Paradise

ONE of the biggest producers of strawberries in San Luis Obispo County, California, is J. R. Davis. The Davis Ranch is situated on the Salinas River northeast of Atascadero. It comprises 17½ acres planted to the Shasta variety and 5½ acres to the Lassen.

Bob Miller, California Polytechnic Institute graduate in horticulture who specialized in soils, has been foreman for the past three years

and feels the ranch has many unique features.

The Lassen crop averages 2500 14-pound freezer trays per acre and the Shastas run a good 2000 freezer trays. The yearly total yield is about 341 tons of berries. Two-thirds of this phenomenal crop is harvested in the nine weeks from the first of May until the end of June. July is a dormant month due to the hot weather, and picking is resumed in August and continues until mid-October.

During peak production 80 pickers, primarily Mexican nationals, cover the 23 acres every three days when the berries are sold to the fresh market. By mid-May, as the berries ripen faster, they are sold 100% to Santa Fe Berry Packers for freezing. Cost of picking averages 55 cents per 14-pound freezer tray.

Miller says that berry plants four and one-half years old are still producing satisfactorily. The policy, however, is to replant every four years.

The soil of the Davis Ranch—a rich loam—is ideal for berries, in Miller's estimation. The fertilizer program includes the application about March 1 of 400 pounds of Triple 14 per acre applied as a side dressing. In mid-May a low nitrogen application of 200 pounds per acre of 4-10-10 is made. A third application, which would approximate the mid-May treatment, may be made later in the season depending on soil tests.

Irrigation is done by means of siphons from open ditches. The river bottom well produces 1000 gallons per minute and one man can irrigate the entire 23 acres in two and one-half days. During hot weather the strawberry fields are irrigated every four or five days. A total of 35 applications was made in 1958.

Because of the isolated area in which the berries are grown, with no other row crops in that part of the country, insect pests are at a minimum. Thrips and aphids give the most trouble.

Dusting is usually done twice a year with TEPP (1%), which has a 48-hour tolerance, permitting little or no interruption in the picking of the berries. If insects are particularly troublesome, a third dusting is done. Once every three or four years it becomes necessary to treat for the two-spotted mite by using Kelthane.

The entire strawberry program on the Davis Ranch is based upon research tests which determine the needs of the soil and plant in proportion to the tons of berries produced each season. Miller works with the fertilizer supply houses on

AMERICAN FRUIT GROWER



FROM BLOSSOM...



...TO HARVEST

Guthion alone ... controls all major apple pests ... all season long

"Better finish" ... "higher yield" ... "easiest, most effective control ever." Those are actual reports from apple growers of this area who used GUTHION last season.

They report that GUTHION *alone* controlled every major apple insect in their orchards—including aphids and mites. They proved that all-season use of GUTHION alone provides equal or better control than any combination of insecticides formerly required—and at no extra cost!

Harvest a higher profit apple crop from your orchards this year by using GUTHION through the entire season. A regular, season-long schedule will provide better protection between sprays, too, for GUTHION stays on the job from one cover spray to the next.

Simplify *your* spray schedule and get top quality fruit this season. The sure, economical way to do that is to order GUTHION from your farm supply dealer today. It works!

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CHEMAGRO

"Chemicals for Agriculture—Exclusively!"

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Chemagro Corporation, Hawthorn Road, Kansas City 20, Mo.

CO-RAL • SYSTOX • DEF • DI-SYSTON • DYLOX • DYRENE • DIPTEREX • HERBICIDES

High-Pressure SPRAY HOSE

Special value—shipped immediately



800 Lbs. Working Pressure

Horticultural Spray Hose, High Pressure, flexible. Resists oils, chemicals, insecticides, any D.D.T. sprays.

Couplings are attached on each length of hose that will fit all high-pressure sprayers.

Shipments made C.O.D. plus freight. Postpaid if payment sent with order.

SATISFACTION GUARANTEED or your money refunded

CHOICE OF LENGTHS	HOSE INSIDE DIAMETERS			
	3/8"	1/2"	3/4"	
25 ft.	\$10.75	\$12.55	\$17.75	
50 ft.	19.75	23.40	32.75	
75 ft.	28.75	34.15	47.75	
100 ft.	37.75	44.90	62.75	

Agricultural Rubber Products Corp.

219 Washington St., New York, N. Y.

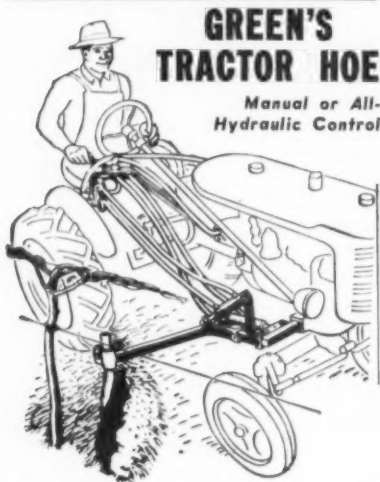
SPECIAL GROWER SUPPLIES

FOR 50 YEARS WE HAVE BEEN ONE OF OHIO'S FOREMOST TREE SERVICE COMPANIES. WE SELL ONLY TOOLS—EQUIPMENT AND CHEMICALS WE KNOW WILL WORK.

• Northeastern Ohio's John Bean Dealer—24-hr. Parts & Service • Mitts & Merrill Brush Chippers • KWH Knapsack Sprayers • Homelite Chain Saws • Sacco Fertilizers • Sohio Agricultural Chemicals • Professional Pruners of All Types • Ladders • Hand Saws • New Bedford Rope • Fanno Saws • Misc. Supplies.

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FOREST CITY TREE PROTECTION CO.
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GREEN'S TRACTOR HOE
Manual or All-Hydraulic Control

Green's Tractor Hoe will save you time and money. One man can do the work of many. Fits most makes of tractors.

Send for free literature.

Howard C. Green Mfg. Co.

Portland, New York

the basis of these tests. Principal suppliers for the ranch are California Spray-Chemical Corporation and Best Fertilizer Company.

When asked why Mexican nationals are employed in preference to local help, Miller stated that Mexican nationals remain for the season. Local help is always solicited but seldom can be obtained in quantity to take care of the ranch needs and when it is obtained, it cannot be depended upon to remain for the season. Due to the fact that there are no other row or season crops in the locality, there are few migrant workers.—Geneva Hamilton.

NUTS

Nut Growers Meet

SOME 150 nut-minded growers attended the 50th annual meeting of Northern Nut Growers Association held recently at Illinois College, Jacksonville.

Secrets of profitable growing of pecans were discussed by George James, Brunswick, Mo.; R. B. Best, Eldred, Ill.; and Frank L. Brewster, Baxter Springs, Kans. These growers are top-grafting native seedlings to improved varieties which produce high quality nuts. There are many areas where converting native seedlings to improved pecans has definite possibilities.

Carpathian—a strain of English walnut introduced from the Ukraine—is showing promise for culture in northern latitudes.

Growers were told of the many excellent varieties of this strain now available which produce high quality nuts and withstand low temperatures. Carpathian can be top-grafted on native black walnut or trees are now available from nurseries.

Still another promising nut for northern latitudes is the Chinese chestnut. After more than 20 years of testing, there are now available varieties of excellent quality. Generally speaking, Chinese chestnuts can be grown successfully wherever peaches can be grown. This species produces early, heavy, annual crops of nuts superior in quality to the old American chestnut.

Since the European chestnut seems doomed by the same blight that destroyed our native stands, Chinese chestnuts promise to become an important nut crop in this country.

Secretary of Northern Nut Growers Association is Spencer B. Chase, 2338 Parkview Ave., Knoxville, Tenn.

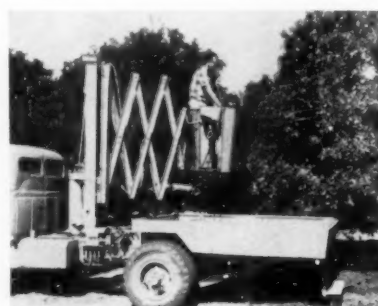
CITRUS

Picking Spindle

THE latest in mechanical harvesting aids is a picking spindle developed by Glenn E. Coppock and P. J. Jutras at University of Florida Citrus Experiment Station, Lake Alfred.

The picking assembly consists of 24-inch hydraulic-powered picking spindles with tapered flights of rubber which form an auger. All spindles are 4½ inches on center and rotate in the same direction.

As the spindles pass through the limbs and fruit, the flights rotate and gently pull the fruit until it is detached from the tree. Fruit is then conveyed by the spindles into a container. The spindles are reversed when the tool is withdrawn from the



Spindles are operated from picker's platform.



Closeup of picking spindle shows fruit being rotated along the auger into a container.

tree to prevent damage to leaves and twigs.

Tests of the picking spindle were conducted from the experimental picker's platform pictured in the November issue of AMERICAN FRUIT GROWER.

Engineer Coppock reports a larger model of the mechanical picking assembly is now under development at the Station.

Construction details for Cornell University plastic panel greenhouse and reprints of current articles on plastic greenhouses are available from AMERICAN FRUIT GROWER, Willoughby, Ohio, for 50 cents a set.

AMERICAN FRUIT GROWER



Unmatched power-weight ratio gives the "460" unexcelled traction and lugging ability for heavy-duty tillage.



Handle big sprayers easily, with the "460's" 48 drawbar horsepower and 10 speeds forward with TA.



Front-mounted fork lift for the International 460 Utility has 2,000-pound capacity, 10½-foot lift.

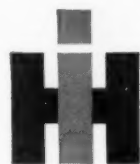
From spraying to picking, you get big help with an International® 460 Utility

Here's a tractor that never says "can't" when you have to meet tight spray and tillage schedules, or face the picking season with a shortage of help!

For heavy pulling, the Multi-Range six-cylinder engine combines with over 4,800 pounds of built-in brawn (even more in the Diesel model) to deliver 48 of the smoothest-pulling drawbar "horses" you've ever used. Equip the "460" with Torque Amplifier drive, and you have 10 speeds forward, 1.8 to 16.5 mph. For even wider speed range, throttle back in any gear—the husky Multi-Range engine hangs onto the load without a whimper.

NEW! for husky, compact Diesel power in a new economy "package," ask your IH dealer about the International B-275—an amazing performer with 29 drawbar hp, eight forward speeds, and pull-boosting differential lock.

At picking time, quickly attach a front-end lift for handling 20-bushel boxes—the 460 and your tractor operator can do the work of two or three men, compared with loading and unloading trucks with boxes or crates by hand... The 460 Utility is available with gasoline, Diesel, or LP Gas engine and with orchard fenders or full rear wheel cowling. Your IH Dealer will be glad to demonstrate—why not see him soon?



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PAYMENTS TO
YOUR INCOME!



REVOLUTIONARY NEW FUNGICIDE FIGHTS SCAB ON AND IN FOLIAGE

*Cyprex 65-W combines four different actions
to provide both protection and eradication*

Cyprex® has shown apple growers that materials which once passed for good scab fungicides were really only fairly good. The unique combination of properties that work together in a Cyprex program provide the kind of control that has leading fruit authorities awarding Cyprex a "best in test" rating in trial after trial.

Cyprex puts a highly effective fungicidal barrier on leaves and fruit that starts working immediately and continues to work because it has...

PROTECTANT PROPERTIES

Spreader-sticker action

Cyprex has built-in spreader-sticker action. Droplets of Cyprex spray spread out to cover the entire leaf surface. While heavy rains will wash off *some* Cyprex, a tough film remains to blanket fruit and foliage until it's time for the next application.

Automatic redistribution

Rain moves *some* Cyprex around by washing and dripping. This means that coverage is extended to those portions of the leaf surface that have outgrown previous protection, as well as to completely new growth that has emerged. Spreader-sticker action keeps this new growth protected.

Local-systemic action

Cyprex also works internally, protects the whole leaf by guarding against scab from the inside out. For example, even if Cyprex

hits only the under surface of a leaf, it is absorbed into — and moves throughout — the entire leaf to kill scab spores that land on either surface.

ERADICANT PROPERTIES

After-infection control (eradicant for kick-back action)

In addition to all the above protectant properties, Cyprex also provides eradicator action. This means Cyprex will penetrate the leaf surface to seek out and destroy growing scab spores. The kick-back action of Cyprex will eradicate scab even when the spray goes on 36 hours after the

beginning of an infection period.

With these four, different actions combined in one fungicide, growers for the first time have a completely flexible scab control material...one that offers both protection and eradication.

How to use Cyprex for protection and eradication

To control apple scab, use ½ lb. of Cyprex 65-W per 100 gallons of water, as needed to maintain scab control from pre-bloom through first cover spray.

If timing is missed and a scab infection period occurs, use ¾ lb.



As you can see a severe scab problem existed in this orchard...

of Cyprex for 36-hour, kick-back action . . . ½ lb. for 28-hour kick-back.

All the extra advantages you get with Cyprex give you that margin of control that can make the difference between fair and excellent crops. However, none of them eliminates the need for proper timing, good coverage and a regular schedule.

Cyprex is compatible with most commonly used insecticides and other fungicides. It's non-caustic, low in toxicity. When used as directed, it presents no hazard to orchard workers.

Cyprex can be used in either dilute or concentrated sprays, but concentrating above 5 times is not recommended. Consult your local authority before using Cyprex on the following sensitive varieties: Golden Delicious, Grimes Golden, and Rhode Island Greenings.

Cyprex, a 65% wettable powder, will be available through your regular supplier in 25 and 50-lb. drums. Write for leaflet PE 5061, American Cyanamid Company, Agricultural Division, New York 20, N. Y. ©Cyprex is American Cyanamid Company's trademark for dodine fungicide.



Cyprex is equally effective against primary and secondary scab. Because orchard was protected with Cyprex, the entire crop sold as U.S. No. 1.



...yet, this clean foliage is from an adjoining tree. The reason: a regular Cyprex 65-W schedule.



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- spray from either side or both sides
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Willoughby, Ohio

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"The Spreader with the controllable spread," designed especially for the berry and grape growers and the orchardists and open fields. Control width of spread from 2 ft. to 40 ft. Direct spread where you want it. Side dress, band apply, broadcast seeds and cover crop. Why be limited to one type spreader? Used by State and National Agricultural Departments for application of granular insecticides.

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SKIDBE SEED & FERTILIZER SPREADER
Sodus, Mich.

Let's Quit THIS WAITING GAME!

"It's certain that if everybody waits it will never work," is Virginia's Kenneth Robinson's prophetic cry as he urges inter-area grower co-operation for effective bargaining relationships with processors. Excerpts from his talk before the New York State Horticultural Society meeting point up some of the problems on this year's bargaining horizon



By J. KENNETH ROBINSON

ALTHOUGH 1959 was not a year of complete victory for Eastern Fruit Marketing Co-operative, Inc., modest, but concrete, progress toward a fully successful Appalachian area bargaining association for apples was made.

In a large crop year, the co-operative was able to get slightly higher prices for processing apples. And all processors named a price when they began to receive fruit.

After receiving shockingly low prices for their fruit in 1958, growers in the four-state Appalachian area (Virginia, West Virginia, Maryland, and Pennsylvania) organized themselves into state bargaining associations. Growers were assessed a \$10 membership fee.

Association leaders cited many sideline industry benefits for bargaining besides raw fruit price negotiation.

Some benefits are:

- Better year-to-year industry economic stability.
- Improved intra-industry information and co-ordination.
- A more realistic price for processing apples based on economic consideration.
- Improved conditions of sale to processors.

In July, 1959, a federation of these four state-level associations was founded. Actual bargaining was to be done within the framework of the new federation—Eastern Fruit Marketing Co-operative, Inc. Each state would have voting representation based on the total tonnage of apples committed by that state's members.

Association membership grew to almost 500 growers. Final pre-season tonnage commitment was just over 5 million bushels with about 4 million bushels indicated for delivery to the area's independent canners.

Although the association's original base price of \$2.35 per hundred-weight of 2½ inches up for "saucy varieties" and \$2.65 per cwt for

Yorks was not met, growers did receive 25 cents per cwt over 1958 prices.

The total direct increase to the four-state growers was almost \$1,250,000—10 cents per crate on 12 million crates. For a total investment of \$5000 in \$10 membership fees, plus untold voluntary grower effort, the industry profited in the millions.

Members are disappointed, but not discouraged, at the lack of full success of their first bargaining attempt. They are busy making plans for the 1960 season.

One of the big problems is money. The legal fees for organizing in the four states, plus printing, postage, and secretarial help have all but exhausted funds received from grower membership fees.

Eastern Fruit has asked the four-state bargaining associations' members to put up 1 cent per cwt on all fruit committed for bargaining on the last estimate sent in before harvest began. In case fruit actually delivered to processors was less than originally committed, the actual delivery figure would be used.

These funds will be used to employ a full-time man to work among the growers and to sell them on the merits of the association.

Appalachian growers learned some hard-earned lessons in their attempt to bargain in 1959. They learned:

- 1) Not to expect processor support or co-operation. Some processors are aggressive in opposition; others passive in attitude. But few, if any, are of assistance.
- 2) Everything takes longer than the time estimated to accomplish it.
- 3) Grower members must be kept fully informed and advised to stay closely in touch with the processors to whom they usually deliver.
- 4) Total membership is not as important as are the key growers supplying the big industry policy-making processors. Strength within their ranks is essential.
- 5) The nucleus group must con-

AMERICAN FRUIT GROWER

sist of growers who are co-operatively minded, ready to sacrifice, and willing to lead and work.

One of the knottiest problems facing Eastern Fruit is to interest growers in other areas in bargaining. Many consider it the biggest reason both for the lack of better grower support and the non-co-operative big processor attitude.

In 1959, the two largest Appalachian processors, White House and C. H. Musselman Company, acquired canning plants in Michigan. Heinz, Duffy-Mott, Comstock, and Gerber are already inter-area in coverage.

Growers from all areas now find themselves vying for favor among the same processors.

Who can doubt that, as a bare minimum, intra-area processing grower organization and inter-area co-operation and federation are called for between the four major processing areas?

Michigan has a nucleus grower organization but is evidencing no inclination to put it into gear in spite of their enthusiasm for the Great Lakes Cherry program. Maybe they're waiting for Eastern Fruit's claimed proof of intentions to make bargaining work.

It is certain that if everybody waits, it will never work.

Western New York and Appalachia remain, as in the past, the most inter-dependent upon each other of any two of the four big processing areas. They grow the biggest crops, have the largest and oldest processors, and are less diversified as to products grown and processed.

The processing-apple grower fortunes of these two continue to intertwine. And their inter-area co-operation is a must in any full industry stabilization.

Apple processors are just now winding up an applesauce pack that will be the largest in history. Though movement is good, the market is sloppy and shows little strength in the face of full warehouses. A substantial carry-over into the 1960 harvest seems assured.

Unless apple growers are willing to take a bargaining toe hold they will again this fall find themselves being whipsawed between a big crop *someplace* and a big carry-over *everyplace*.

Otherwise, the growers' only protection against seeing processors pack more and more cheap applesauce each year and pay growers less and less for the fruit will continue to be nature's remedy—the short crop.

Are we to forever wait for the decreasing chance of a damaging freeze-out to get us out of our economic crack?

THE END.



The remarkably fine finish of these peaches resulted from using "Thylate". On all varieties of peaches, apples and strawberries "Thylate" helps produce more premium-quality fruit.

To produce higher yields of top-quality fruit—stop diseases with Du Pont THYLATE® thiram fungicide

PEACHES—Du Pont "Thylate" thiram fungicide has proven to be one of the safest and most effective chemicals yet developed for controlling several important peach diseases. Even under the severest conditions it gives peaches excellent protection against brown rot in both blossom blight and fruit stages, and against *Rhizopus* rot and scab as well. It is completely safe to foliage and leaves fruit with a fine finish. Disease protection with "Thylate" will bring you both bigger yields and a higher percentage of premium-quality fruit.

APPLES—"Thylate" controls ten major diseases, more than any other fungicide. It leaves no objectionable residue—won't cause russetting, even on Golden Delicious.

STRAWBERRIES—"Thylate" provides superior protection against gray mold all season—from early blossom stage to ripening of fruit—won't harm foliage either.

MIXED BLOCKS—Save both time and labor this year by protecting mixed blocks of apples and peaches with one versatile fungicide—Du Pont "Thylate".

Contact your dealer soon for a supply of Du Pont fungicides. Be sure, also, to ask him about Du Pont "Parzate" zineb fungicide for excellent protection against late apple diseases, and Du Pont "Fermate" ferbam fungicide for dependable disease control on a wide variety of fruit crops.

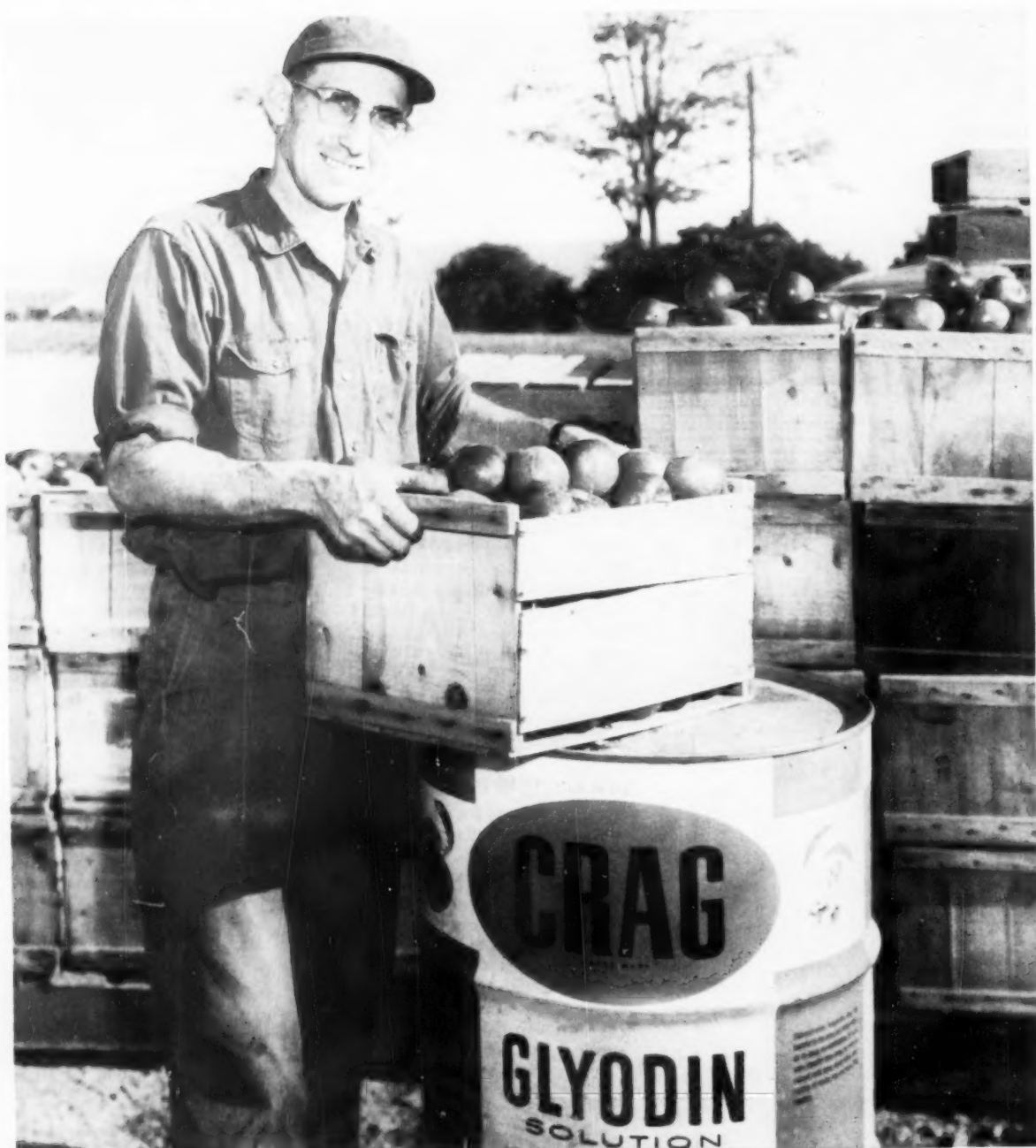
On all chemicals, always follow label instructions and warnings carefully.



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GLYODIN *pays more ways in all your sprays*

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PROTECTION FROM BUD TO BUSHEL **WITH ECONOMY!**

GLYODIN provides powerful, all-season protection against scab and summer diseases. In addition it gives you extra advantages unmatched by other fine-finish spray programs. Yet Glyodin saves you \$15 to \$22 per acre on fungicide costs. It's no wonder that many growers report Glyodin is their greatest fungicide value.

A Glyodin program offers complete protection. It combines perfectly with mercury for "back-action". Used with sulfur or "Karathane", it provides efficient mildew control and reduces the risk of sulfur scald. Excellent against summer diseases, Glyodin combines well with ferbam for rust and rots. On cherries too, Glyodin is ideal for leaf spot control.

Glyodin suppresses mites when used in a full schedule of early and cover sprays. This saves as much as three special mite sprays a year. Why pay more for a fungicide that adds to your mite problems?

Glyodin aids insect control by improving effectiveness of insecticides and miticides used with it. Glyodin spreads and sticks the whole spray mix on foliage and fruit for better protection even through extended rainy periods.

Glyodin gives fruit and foliage smooth, clear, transparent protection without reducing leaf efficiency. It's safe to use in bloom sprays and in pre-harvest sprays to prevent pin point scab in storage. For efficiency and economy, Glyodin is your best buy!

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...see your **"CRAG" GLYODIN** supplier now!



You can stop this kind of damage ...the new low-cost Signode way

Signode steel strapping presents a simple and economical solution to the problem of main limb breakage.

The method does not harm or interfere with the growth of the tree. It has been proved in use...10,000 trees in one orchard alone have been strapped. Cost of materials runs only about 13 cents per tree. Application is simple, and may be made early in the growing season or after the harvest.

As any grower will recognize, elimination of main limb breakage is an important basic benefit that prolongs tree life, virtually eliminates orchard clearing costs, and stops sunburn losses that often result from main limb breakage. In addition, the strengthening of trees with this new method speeds harvesting with automatic shaking machines and minimizes tree damage from the use of such machines.

Send for Free Booklet "Strapping Orchard Trees"

You can get started at once using this new Signode way to stop main limb breakage in your orchard. Full details will be sent promptly, without charge. Branch offices in 71 cities—see "Strapping" in the Yellow Pages, or write



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By HENRY BAILEY STEVENS

The Soft Sell of Spring

THE discovery that empathy makes business more livable is nothing new to the artists. It has been their stock in trade all along. Take the poets, for example, from whom we hear often at this season. They feel as one even with birds, bees, and blossoms. That ought to make them our No. 1 empathists. Yet we have had some fear that busy readers just skip poetry these days.

As an experiment this month we are printing a few contributions of verse as if they were prose. Do they make more or less sense this way? Is a poem a pose? Is it better than prose? Or is it the printer who makes it a rose?

Chain Reaction

(from Virginia J. Porter, Angola, N. Y.):
God gave the earth a seed, then a shoot. And then He gave the tree a flower. And then He sent the sun and shower to mould each season's fruit.

Advice To a Farmer

(from Clara Gandy Andersen, Hatfield, Ark.):
Go set a young fruit-bearing tree right near the kitchen door. Its blooms will bring a rich reward for this small loving chore. In spring its wealth of beauty, when blossoms wreath each bough, will lure you away from worry—you'll whistle as you plough. Your wife will sing doing dishes, smile as she bakes the bread, love you and laugh with the children, fair as when you were wed. For bread may feed the hungry man, water assuage his thirst, but a woman's need is greater—she longs for beauty first!

Blossoming Desert

(from Rudolph N. Hill, Farmington, N. M.): In the bright glare of the sunlight there's a winding line of trees, where a river, curving broadly, settles down to take its ease; and the cottonwoods grow taller as you catch the rising breeze. There are lovely fruit trees growing—peach and apricot and pear—and a clean and airy farmhouse set inside each fruitful square; red and yellow, pink and purple flowers blooming everywhere! I have seen

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HE SWITCHED TO MALATHION



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MARCH, 1960





in protective packaging that sells!

First choice among all your buyers will be the berries and fruits packaged in these Interlocking Berry Trays, designed to assure safe shipment and storage—inviting display.

Raised ends, re-inforced locking corners and double-wall construction make these containers virtually crush-proof, insuring positive protection for contents. Free air circulation from all sides.

Attractive 2-color stock designs—

with *your own* brand identification imprinted if desired. Available in standard 8-Quart and 12-Pint sizes. Shipped flat—for cleanliness and quick set-up—no tape or staples required.

Sturdy, moisture resistant Berry Cups—more economical, more attractive, and cleaner—juice does not bleed through walls. Packaged 500 per shipping case.

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Bonus in every
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P. O. BOX 858

WENATCHEE, WASHINGTON

the sun in glory shine across high table-land, and have stood on peaks at sunrise like they came from God's own hand; but there's nothing like the beauty of orchards on desert-sand!

An Old Tree Left Standing

(from Jeanette McDonald Morgan, El Dorado, Kans.): Why cut him down and leave me standing? My seed will no longer bear, sap runs sluggishly through my veins, and I am tired of buffeting storms. Why cut him down, who so eagerly awaited Spring, and leave an old tree standing with a gaping wound where his heart was?

A Tame Hawk

"THE sparrow hawk is our smallest and handsomest hawk, a tame flyer with a wide range of the country," writes John B. Behrends, of Glendale, Calif. "He is only slightly larger than a robin, but his long tail makes him seem much longer, and his bright rusty-brown plumage gives him conspicuous color as he crosses before us in a line of flight. A close view shows black streaks on the back, and a curving mark extending up to the eye gives the head a funny appearance. These birds have a peculiar flight, consisting of a few rapid wing beats alternating with a short sail, and they are quite noisy in the spring when they pick out a home site or have young in the nesting hole. At times their shrill "killy killy" notes ring out incessantly.

"These hawks often use certain trees as lookout posts and soar above the surrounding fields for food. Last fall I noticed one fly and return to the wire netting that served as a spark-catcher around the top of a chimney above a 15-story building on the shore of Lake Michigan."

Recipe For Girlish Figure

"DEAR Windfall Editor," writes Mrs. Otto Minzenmayer, Bartlett, Texas, "the person who does not want to burden the bathroom scales should try a fruit diet. Let's all get wind of this fact without having to be beamed with another Isaac Newton windfall."

Which nobody can deny!

The Wintering Trees

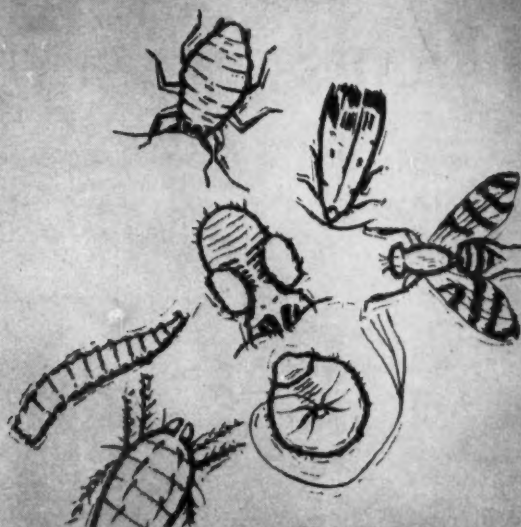
By Virginia J. Porter
Angola, N.Y.

All day they stand with naked boughs—
Bearing the brunt of winter's sting.
How strong their roots of faith must be
To brave such cold until the Spring.

Address your "Windfalls" contributions to Henry Bailey Stevens, AMERICAN FRUIT GROWER, Willoughby, Ohio.

AMERICAN FRUIT GROWER

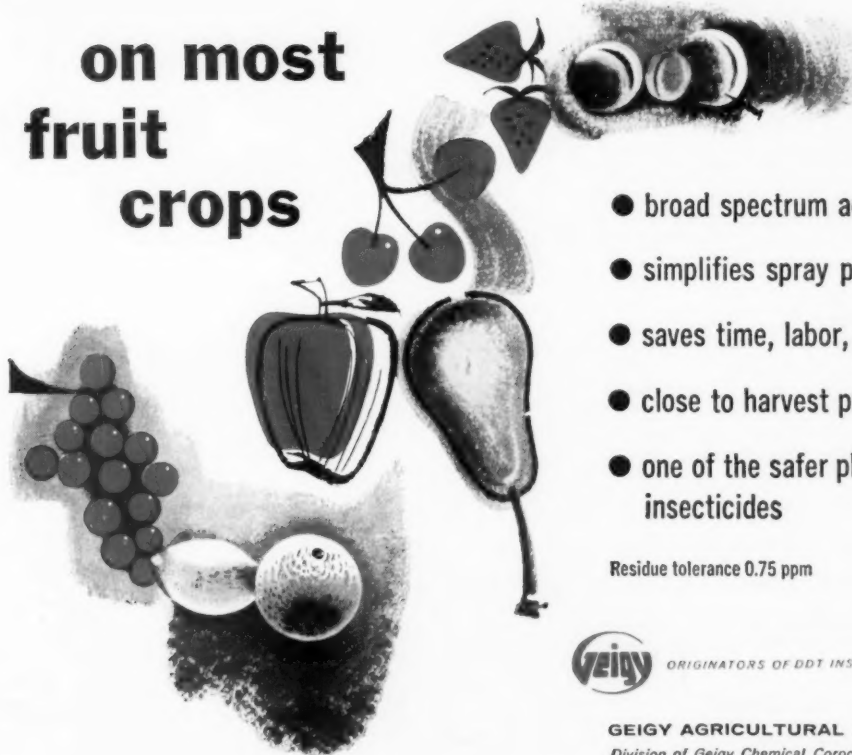
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- broad spectrum action
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Residue tolerance 0.75 ppm



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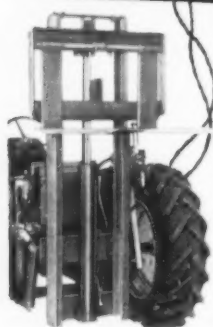
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The big trend in fruit growing is the switch to bulk handling...the proven materials handling method designed to cut costs and speed the harvested crop to packing sheds and storage plants. Blackwelder makes bulk handling practical with its complete line of fork lift attachments—7 models designed to fit your tractor—your operation.

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Experiment station tests and "in-the-field" grower reports point to savings of 13½ cents per bushel in getting a crop out of the orchard with mechanical handling methods. These factual reports show that labor costs alone are cut at least 2½ cents per bushel — and the crop is moved out of the orchard faster with less bruising. Write for descriptive literature.



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APPLES

Rejuvenation . . . in Three Steps

IN 1912 and 1913, our 80-acre orchard at Smithfield, Ohio, was set with apple trees spaced 36 feet apart.

The folly of planting the entire orchard at one time—instead of staggering plantings over a number of years—soon became evident. We realized we faced eventual extinction of the orchard unless provision was made for additional acreage or for the rejuvenation of existing plantings.

Since no suitable land was available, we decided to begin rejuvenation with the ultimate aim of establishing what the late Dr. J. H. Gourley, head of the Department of Horticulture, Ohio State University, called the "rotating orchard"—one-third young trees, one-third middle-aged trees, and one-third old trees.

To complete the rejuvenating process, we had to follow three steps:

- Interplanting, possibly half of the orchard.
- Completely removing and replanting, in blocks, about one-fourth of the acreage.
- Replacing individual trees in the remainder of the orchard as they became useless.

Interplanting was begun in 1936. The 36-foot spacing of the original trees (then 24 years old) was too close and the sod was too dense for interplanting, but it was a case of sink or swim.

All plantings were made in the fall. The young trees were protected by wire guards and about a bushel of peat was put around each tree when set. Peat helped to protect the roots during severe winter freezing, to prevent heaving of the trees, to smother out grass, and to hold moisture in the spring.

Fertilizer (according to need) was used when setting the trees. The complete fertilizer was mixed with the soil and only nitrogen was placed on top of the ground before the peat was applied. In heavy soil some peat was also mixed with the soil.

Hardy stocks of Virginia crab and Hibernial were used in small plantings. We found Hibernial to be the more satisfactory.

When areas began showing evidence of decline, whole blocks were removed. After harvest, the trees were bulldozed either sawed for convenience in removing or the limbs broken and the tree dragged out of the orchard. The holes were filled with soil and sown to rye.

The following spring the entire block was thoroughly disked and seeded to an orchard mixture. Trees were planted in the fall.

Originally we planted the new trees in the old spacing. Now we plant at new spacings. The old trees, instead of being bulldozed, are cut down, leaving stumps which often can be shoved over by hand in a few years.

The third step—individual tree replacement—meant removing the tree as it passed its usefulness, filling the hole with new dirt, and replacing with Hibernial already budded as first-year-growth in the nursery (one bud per tree). Peat was used more liberally.

The budding process is quite simple and useful. Budding is especially important with Malling VII which should be budded above ground.

By following the three steps to a "rotating orchard," we discovered our system of fall planting was more advantageous than spring planting. The secret of our success: fall planting with needed fertilizer, Hibernial for replants, and application of peat around the tree.

These factors give the tree a tremendous boost over the spring-



Young McIntosh in 40-year-old block. Interplanting is one phase of Welday rejuvenation program.

AMERICAN FRUIT GROWER



Delayed-Dormant apple sprays of TRITHION[®] insecticide-miticide with spray oil thoroughly control overwintering Rosy and green aphid eggs, and mite eggs. Use one-half pint of TRITHION 4 Flowable, or one pound of TRITHION 25-W, plus one gallon of spray oil. Follow label directions.

Stauffer is one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS. © TRITHION is Stauffer Chemical Company's trademark (registered in principal countries) for O,O-diethyl S-p-chlorophenyl thionethyl phosphorodithioate, an insecticide-miticide.





NEW! MORE EFFECTIVE CONTROL OF RED BANDED LEAF ROLLERS

with **VELSICOL**
ENDRIN



ENDRIN . . . a new and more effective chlorinated hydrocarbon insecticide, will give you effective control of red banded leaf rollers. It even kills those that have developed resistance to certain other chemicals. It won't harm fruit or foliage, and can be applied with standard sprayers. It's economical, too, because the wettable powder spray you use for leaf rollers will also control plum curculios. The first application must be made at petal fall, so order Endrin now. A second application is suggested as a first cover or pre-cover spray. Consult the spray schedule for your state for specific directions. Be sure you get delivery in time to protect your production, trees, and profits this season!

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RED BANDED
LEAF ROLLERS
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APG-30

Gentlemen: Please send me folder—"New Aid for Apple Growers."

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planted tree. Even 50 young peach trees planted in the fall of 1958, in stiff bluegrass sod with peat, came through a tough winter without loss.

There are many advantages and disadvantages to the three methods of rejuvenating an old orchard.

Interplanting is the quickest and simplest way with the least shock to production. However, it interferes with orchard operations and creates a moisture problem.

Interplanting lends itself well to MVII introduction if the grower doesn't leave the old trees standing too long. There is less crowding in the 36-foot spacing. Later, the old trees can be replaced with other MVII at better-spaced intervals.

Removal of complete blocks has proven to be the best way of rejuvenating an old orchard. Although it means a big and abrupt drop in production, it allows the orchardist to plant uniform, sturdy trees of new varieties, properly spaced.

Individual tree replacement permits maximum production but it is a costly program. It presents a cultivation problem. An orchard comprising both old and young trees is more expensive to spray. At harvesttime, there are problems of different degrees of tree height and fruit maturity.

It is important in rejuvenating an orchard to keep the old trees in good condition and producing good crops of large fruits. Old trees require more nitrogen than younger trees of the same size. They need stimulated pruning and frequent leaf analysis.

Last season our 47-year-old Rome Beauty trees produced at least 80% 2½-inch apples with better color than those from younger trees.

At Welday Orchards, we now have that dreamed of "rotating orchard." And we also have the advantage of adjusted distances of planting; grouping for convenience and pollination; and new varieties such as Melrose, nine-year-old Red Rome, three-year-old Starkrimson Delicious and MVII interplants.

Furthermore, an absorbing interest like rejuvenating an apple orchard may be one thing, but the rejuvenating of the operator in the process may be of still greater importance.—*Wheeler J. Welday, Smithfield, Ohio.*

Don't Drop McIntosh

USE extra care when handling McIntosh apples, cautions Dr. William J. Lord, extension pomologist, University of Massachusetts.

Dropping a McIntosh apple just two inches on a hard surface will cause a bruise of a half-inch or more.

Training the Young Tree

PROPER training of the young tree is important for long and profitable tree life. These pictures, taken at AMERICAN FRUIT GROWER experimental orchard, re-emphasize some basic pruning principles.



This Clark dwarf has a bad crotch (right) and a good crotch (left). The bulge in the trunk is the dwarfing piece. The limb with the poor crotch should be removed. It shows the telltale "crease" where it will break under a load. The bark may be stripped to the ground, destroying the tree. The wide-angle crotch (left) makes a stronger union with the trunk than a narrow angle crotch.



A five-year-old McIntosh on Malling VII rootstock. Note the number of scaffolds originating at the same place on the trunk. This may cause the tree to be short-lived because of crotch injury later in its life.



The same tree following pruning. Remaining scaffold branches are growing in four directions and are well-spaced up and down the trunk to allow for strong crotches.

MARCH, 1960

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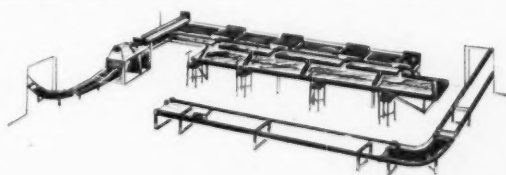
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Tedion, an exceptionally effective miticide, has just received label registration for use through petal-fall on pears and apples. Previously it could be applied only up to bloom on these crops. Now a total of six fruit crops—these two plus cherries, peaches, plums and prunes, already registered—can be protected from the European red mite by Tedion applications through petal-fall.



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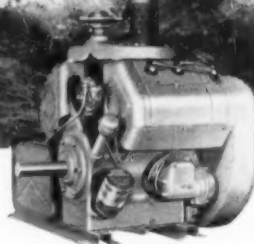
- **It's safe.** Harmless to blooms and foliage—and it's safer to the spray operator; contains no toxic phosphates.

Tedion, a 25 per cent wettable powder, is compatible with other orchard pesticides. Ask your dealer for it today—protected trees produce profits.

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PEARS

Max-Red Bartlett

AN evaluation of the Max-Red Bartlett pear seems desirable at this time since it has been grown and processed for some years in Lake County, California.

An advantage of Max-Red appears to be high production of large size fruit. The fresh fruit is of good taste, fine fruit texture, and good eating quality.

Tree vigor, overall tree stability, its slender upright and willowy habit, fruit color, its apparently somewhat faster ripening, and irregularly shaped fruit (perhaps more typical of young trees) are considered disadvantageous.

Where fresh fruit packing areas have only limited acreage and production they are faced with special handling of Max-Red. This involves co-ordinated picking dates or the storage of small orchard lots pending completion of the harvest or the accumulation of a sufficient amount of fruit to justify putting it through the packing house lines.

Not all canners will willingly accept the canner lot grades as the grades are actually determined. Some have taken cannery grades only when delivered as baby food. Some industry people contend the canned flesh color does not compare favorably with standard Bartlett; others do not.

A larger tonnage for processing would eliminate special handling inconvenience. One canner states that his firm has been canning Max-Red Bartletts for three seasons and has had both good and poor results, depending on the quality of the raw material. He states further that there is very little difference between Max-Red Bartlett pears and standard Bartlett, provided they are picked and handled correctly in storage and ripening.

Max-Red Bartlett is not recommended as a superior and more desirable variety in prime Bartlett producing areas. When produced in districts having fertile, deep, well-watered soil, it is often shaded by heavy foliage. The result is much fruit with a distinctly green skin. The portion of the skin exposed to direct sunlight will generally have a dull mottled red color.

These evaluations are not intended to apply to every California pear area. However, the search for an improvement on standard Bartlett is not answered by the Max-Red Bartlett as grown in the Lake County area.—Russell H. Gripp, Lake County (Calif.) Farm Advisor, Kelseyville.

AMERICAN FRUIT GROWER

per 100 gallons on the Haven varieties.

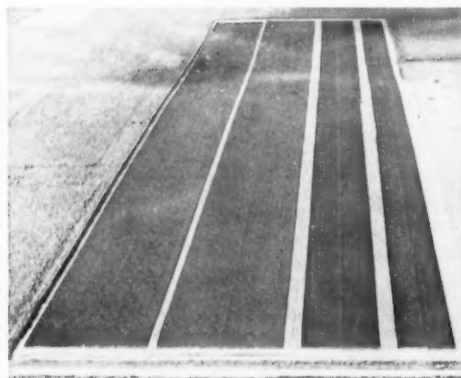
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Above are some of the performance records from four non-stop tractor demonstrations conducted last fall before impartial judges.* Two new D-17 Tractors plowed 10 acres each with 4 bottoms; a new D-14, 7½ acres with 3 bottoms; a new D-12, 5 acres with 2 bottoms.

It was regular farm-type plowing, with 14-inch bottoms set at a uniform 7 inches, although this was deeper than this land had been plowed

previously. Land had been in oats. Soil was sandy loam with some heavy clay spots. Time and fuel were carefully measured by the judges.

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FRUIT growers in Utah have been relying on the wrong variety of apricot for half a century, in the opinion of pomologists at Utah Agricultural Experiment Station, Logan.

However, three new varieties, developed at the station, may remedy the situation.

Utah 27, an attractive, moderately firm, good quality apricot has recently been released to Utah nurseries. It will be available in the fall of 1960.

Another new variety, **Utah 18**, is a late maturing apricot similar to the Chinese, which ranks among the top five major fruit crops in the state. Utah 18 has also been released to nurserymen for propagation and sale on a trial basis.

Having the highest quality of any tested at USU is **Utah 32**, which matures eight days after Chinese. This selection will be released to licensed nurserymen in 1960.—*E. W. Fair.*

Chemical Thinning of Peaches

CHEMICAL thinning of peaches still remains an unreliable practice in spite of extensive studies for the past 10 years. Some growers in Michigan are continuing to try new chemicals for thinning purposes. Because of the persistence of these individuals, thinning peaches chemically will become a widespread standard practice in a few years. It seems worthwhile to relate the experiences of certain growers in their use of different chemical thinning procedures.

James Friday, Coloma, Mich., has been using DN compounds for peach thinning at the time of bloom, for some time. However, he does say that as soon as he reaches perfection, a year just a little different from the others usually upsets his results and he loses his confidence. Nevertheless, Friday continues to use the DN materials year after year.

The Barden brothers, South Haven, Mich., use DN-289 as a standard practice for thinning peaches. They apply the thinning spray usually to only one side of the tree, concentrating the application into the top. In this way, most of the necessary hand thinning after June drop can be done from the ground, eliminating excessive use of ladders which is costly and time consuming. They use DN-289 at one-half pint per 100 gallons on Elberta and at one pint

per 100 gallons on the Haven varieties.

More and more peach growers in Michigan are reverting to DN materials for thinning because of the absence of other competent chemicals.

In the Romeo, Mich., area, Herman Rapp was interested in trying naphthaleneacetic acid (NAA). He used NAA at 30 ppm on Redhaven in 1959 four to five weeks after full bloom with very encouraging results. There was no twig injury or flagging and only a small amount of hand thinning was required after June drop. He is interested in trying this again in 1960.

It should be mentioned that timing is very important when using NAA to thin peaches. Two weeks after shuck split or 25 to 30 days after full bloom appears to be the critical time when using NAA on Redhaven in Michigan.

The formulations of N-1-naphthylphthalamic acid (Peach-Thin 322 and Nip-O-Thin) have been used in Michigan for peach thinning but with very little success. Perhaps the wide variation in yearly climatic conditions at the time of bloom accounts for the very erratic results from one year to the next using this chemical.

This material has to be applied no later than three to five days after full bloom to be of value. This is generally earlier than growers like to apply thinning spray on peaches in Michigan because of the danger of excessive reduction or loss of crop from late spring freezes after bloom.

A new chemical, 3-chlorophenoxyaliphaticpropionic acid (3-CP), explored as a peach thinning agent by Dr. A. H. Thompson, University of Maryland, was tried in Michigan with a great deal of hope in 1959. However, when used in test blocks and in growers' orchards experimentally, severe leaf damage and complete loss of crop occurred.

In contrast to this, William Mueller, Linden, Mich., used this material at 300 ppm on Redhaven approximately four weeks after full bloom without injury and with favorable thinning. Method of application appears to be an important consideration when using peach thinning chemicals both experimentally and commercially. Mueller sprayed the trees in his orchard to the drip point while the trees sprayed experimentally were drenched.

To add further confusion to chemical thinning of peaches and also apples, a ruling based on the Delaney Clause of the Food Additive Law prohibits the use of all growth regulating chemicals on

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ON GRAPES: grape leafhoppers, grape leaf folder, grape berry moth.

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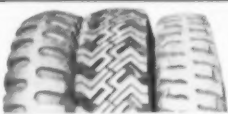
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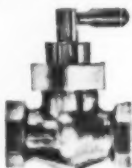
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less some of these chemicals are
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tration.

It is hoped, however, that an ex-
tension of time will be granted for
the use of certain chemicals in 1960
for thinning purposes, such as
naphthaleneacetic acid compounds
(NAA), naphthaleneacetamide
(Amid-Thin), N-1-naphthylphthal-
amic acid (Nip-O-Thin and Peach-
Thin 322), maleic hydrazide to name
a few.

They will not be available for
thinning purposes in 1960 unless an
extension for use is granted. If

Growers are cautioned to check with their
county agent or extension horticulturist to
learn Food and Drug Administration's ruling on
the use of these chemicals.

Further information on this ruling will appear
in a future issue of AMERICAN FRUIT GROWER.

growth regulating chemicals are not
cleared, peach growers will have to
continue with the use of the DN
compounds for blossom thinning or
use hand thinning methods in bloom
and after bloom.

Not to be able to use the growth
regulating chemical thinning com-
pounds in 1960 will be a greater
hardship to the apple industry than
to the peach industry.—Arthur E.
Mitchell, Michigan State University,
East Lansing.

President Series

THE STATE which contributed
six of her sons to the highest
office in the land—has established a
new line of peaches to be known as
the President series.

First of the new series is Wash-
ington, a frost-resistant peach de-
veloped at Virginia Agricultural
Experiment Station, Blacksburg, by
George D. Oberle, R. C. Moore, and
J. B. Hardige of Virginia Polytech-
nic Institute's department of horti-
culture.

Washington ripens about 21 days
before Elberta and three days before
Sunhigh. Fruits of the new variety
are round ovate in shape with
slightly unequal halves and may
have a very slight tip some seasons.

The skin has a bright yellow
ground color and usually has about
three-fourths medium to bright red
overcolor. The flesh is orange yellow
with bright red at the pit and is fully
freestone.

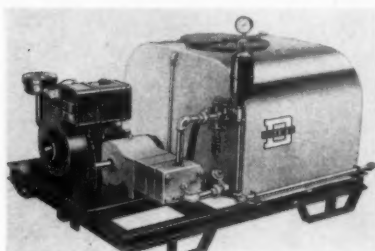
Trees of the new variety are
vigorous. Budset on the twigs is
much heavier than that of Sunhigh.
Washington appears to have a high
chilling requirement.

New Sprayers

See page 12 for more new sprayers



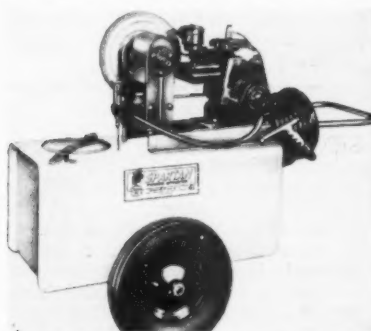
Smith Garden King Power sprayer discharges up to 1½ gallons per minute. Powered by a 2 HP 4 cycle gasoline engine, it comes in 15- and 30-gallon models with 15-foot spray hose.



Dabbins, available in 100- and 200-gallon sizes. Enclosed crankcase lubricated pumps, 8 and 12 g.p.m., operate at slow speed. A special feature is bonded plastic tank lining.



Pak-Tank of 200-gallon capacity can spray several acres without refilling. Is hydraulically mounted on tractor, also works on power take-off. Ballast attachment for smaller tractors.



Oakes Spartan portable sprayer has new set of accessories that give greater all-purpose application usage. Available in gasoline driven and electric powered units; 30-gallon capacity.

MARCH, 1960

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Phygon-XL for apple-scab control

You get cleaner fruit, better yield with this low-cost control. Phygon-XL, the orchard fungicide, can sizably increase this year's apple profits at very little cost to you. This easy-to-use fungus killer gives excellent control of apple scab, brown-rot blossom blight, peach-leaf curl, California blight and many other diseases. Product of United States Rubber Company, Naugatuck Chemical Division, Naugatuck, Connecticut. Harmless to pollen and bees, does not affect odor or flavor of fruit.



United States Rubber

Naugatuck Chemical Division

353H Elm Street, Naugatuck, Connecticut

producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramite, Synklor, MH, Alanap, Duraset.



NEWS

... tips to make
Soil Produce More

A SERVICE OF THE AGRICULTURAL CHEMICALS DIVISION • INTERNATIONAL MINERALS & CHEMICAL CORPORATION • OLD ORCHARD RD., SKOKIE, ILL.

Most fruit trees respond to magnesium sulphate applications

Magnesium sulphate has been applied to citrus groves for many years because of the great benefits in increased yields of better quality fruit and added profits that come from its use. However, it is in comparatively recent times — actually only during the last few years — that the equal importance of water-soluble magnesium (and preferably the sulphate form) has been recognized for such orchards as apples, pears, peaches and cherries. Perhaps this belated recognition should not be surprising since the general recommendation that fruit trees need a "complete" fertilizer is also fairly recent. Fifteen years ago, it was common to apply only nitrogen to most deciduous fruit trees.

Later, when it became known and accepted that "red apples require balanced nutrition," the importance of potash for apples and other tree fruits was recognized. Nevertheless, it has remained for the studies of recent years at North Carolina, Georgia, Arkansas, South Carolina, New York and Michigan — on cherries, peaches and apples — to show that there is an important and positive nutritional interrelationship between potassium and magnesium. This relationship has been seldom understood or appreciated by the average good fruit grower. As a result, he probably has bought fertilizer without the added magnesium and thus failed to get maximum returns from his basic fertilizer investment.

As the use of complete (N-P-K) fertilizers for orchards has increased and larger quantities of potash have been applied, the requirements of apple, peach, pear and cherry orchards for magnesium has increased proportionately. But, applications of these complete (N-P-K) fertilizers and/or potash to orchards often have failed to produce the maximum increased yields because there was not an adequate supply of available magnesium. Therefore, magnesium for orchards is now assuming the status of a major fertilizer element, and it should be accorded that consideration in the

manufacture of fertilizers intended for use on deciduous fruit trees, especially commercial orchards.

Now, more and more fruit growers are beginning to recognize the special value of using complete fertilizers which include water-soluble magnesium so that the potassium and magnesium are supplied in a satisfactory ratio for their fruit trees.

Small fruits need sulphate of potash

Fertilizer applications of sulphate of potash, rather than the chloride form of potash, are recommended for small fruits by several states.

Blueberries, gooseberries and currants are among the small fruits known to be sensitive to chlorides found in some forms of potash.

Established blueberry fields on organic soils in Michigan need a 1-2-3 fertilizer mixture. A 1-1-1 mixture is preferred for mineral soils. Two applications of equal amounts of a complete fertilizer mixture containing sulphate of potash are recommended. One should be made early in the spring and the other in the early part of June.

For Indiana blueberry fields, Purdue University recommends sulphate of potash as the exclusive



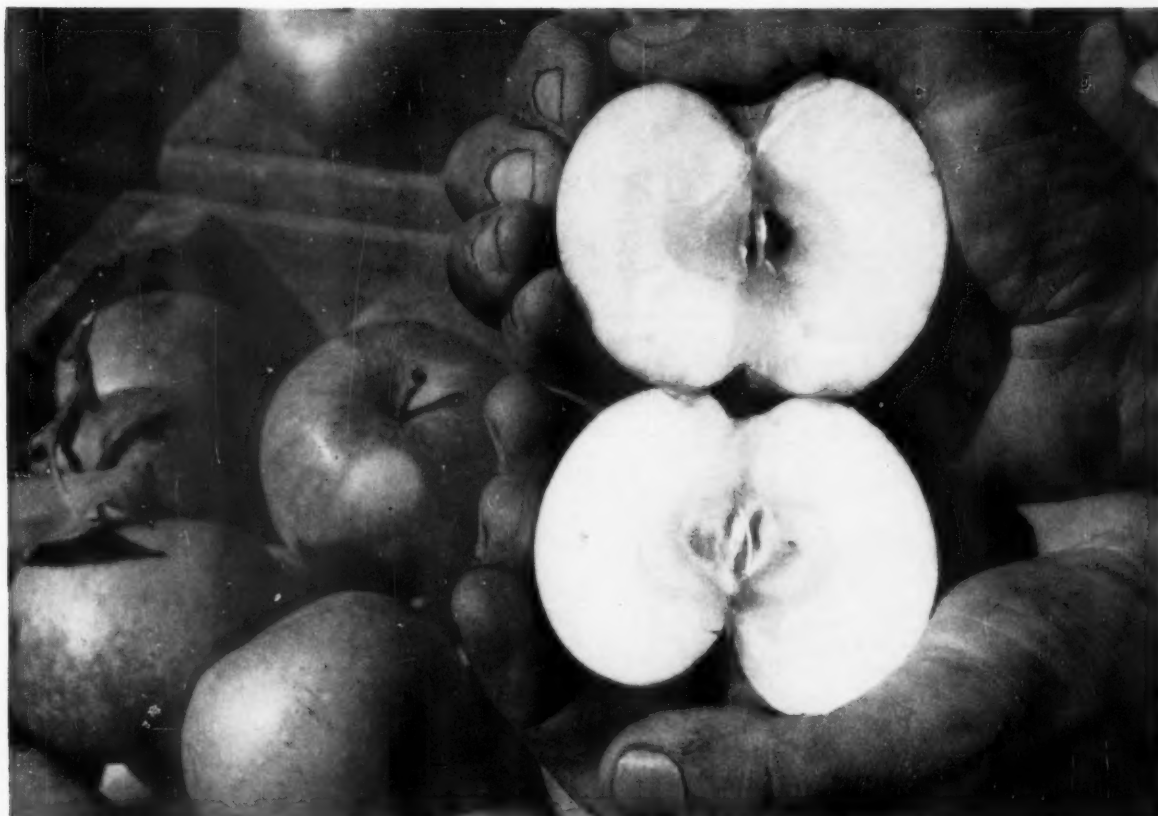
source of potassium in complete fertilizers.

Annual spring application of a 5-10-15 fertilizer mixture for mineral soils and a 5-10-15 mixture for organic or muck soils are recommended by Purdue. Applications should be at a rate of 2 ounces per plant the second year, with increases of 1 ounce per plant per year, up to 7 ounces.

Other states are recommending the sulphate form of potash for grapes, many small fruits and some tree fruits. Although the sulphate form has always been recognized as a superior source of potash it was only recently that improved fruit yields and quality with sulphate have justified states recommending it.

What is Sul-Po-Mag?

SPM or Sul-Po-Mag is a unique natural crystal combination of potassium sulphate and magnesium sulphate . . . double sulphate of potash magnesia. As an ingredient in mixed fertilizers or as a fertilizer material for direct application, it supplies a readily available supply of magnesium, sulphate of potash, and sulphur. All three nutrients are vital for improved fruit quality and yields.



Could yield and quality have been improved?

Many growers are losing money because of magnesium deficiency . . . a new problem here in the west. Here's what you can do about it.

When your crop is sold and the profits are in, it's only natural to ask yourself, "Could my yield and quality have been better . . . could I have made more profit?"

The answer is "yes" for many western growers. The reason: magnesium deficiency, which is fast becoming a serious problem for fruit growers in the state.

Magnesium deficiency is hard to pin down. It doesn't show up on ordinary soil tests. And a lack of magnesium usually hurts yields and quality for years before the tell-tale signs show up on the tree.

The best way to "insure" your crop against magnesium deficiency is to buy mixed fertilizers that contain Sul-Po-Mag. Sul-Po-Mag is an excellent source of magnesium, sulphur and sulphate of potash. It's water-

soluble, fast-acting . . . yet it dissolves at just the right rate to feed trees all season.

Next time you buy fertilizer, be sure it contains Sul-Po-Mag. Look for the SPM seal on the bag or ask for it by name. For more information about Sul-Po-Mag, mail the coupon below.



Look for this identifying Seal of Approval when you buy. It's your assurance of extra-value fertilizer.



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Administrative Center: Skokie, Illinois



Worker applying pollen with No. 4 brush. Only freshly opened bloom is hand pollinated.

Over-Pollination, Less Thinning

THE practice of over-pollinating our fruit trees has paid dividends in maintaining production, cutting thinning costs, increasing yields, and realizing more profit per acre.

In our 160-acre apple orchard south of Chelan Falls, Wash., on the Columbia River, we use a combination of natural pollination, an excess supply of honey bees, and commercial pollen to accomplish this purpose.

The idea of over-pollinating came to us by accident 10 years ago when we stockpiled 200 to 500 hives of bees in a 20-acre Elberta peach orchard.

At bloom time, a strange thing happened. The peach trees were so thoroughly pollinated that by regular thinning time they started to drop. Left alone, they thinned themselves to approximately 6 inches apart. This greatly reduced the need for an expensive thinning operation.

Encouraged by these results, observed over a three-year period, we decided to try an unorthodox plan on our apples. We have over 10,000 trees; 75% are Red Delicious, 20% are Winesap, and the remaining 5% are mostly Rome and Jonathan.

Our older Red Delicious trees already had a Golden Delicious pollinating graft in the center of each tree. We put in more Golden Delicious grafts on both the old and young trees (Goldens are easy to recognize and to handle as pollinizers).

The next step was to maintain an oversupply of bees. Since one-third of the orchard is 15 years old or younger, our present number of 300 hives serves our purpose. These are scattered throughout the orchard in small groups of two to four hives. When all the trees reach full maturity we plan to increase the number of hives to 450 or 600.

The third step of our program is the addition of commercial pollen applied by hand. We use a small crew, but one large enough to pollinate the orchard in the king bloom stage.

Give Nature a Hand

Growers tell of pollinating methods which give them annual yields of high quality fruit

A hand brush is used to apply pollen to the freshly opened bloom only, not closer than 18 inches apart, and only as high as a person can reach from the ground.

Upon completing the orchard, we repeat the operation. The second time over we concentrate on the trees that do not have pollinating grafts large enough to be beneficial.

When the trees are in the full bloom stage, we hand pollinate again.

During the hand pollinating process, the pollen is stored in the orchard in insulated picnic jugs with dry ice to insure pollen viability.

As a special precaution, only enough pollen is issued to each worker to last him about an hour.

Most growers apply pollen merely for getting a crop, but we add it also for the purpose of creating natural thinning. It is important to recognize the close relationship between pollination and fertilization.

If a tree is thoroughly pollinated every year, we find that it will hold only the fruit it can grow to maturity and normal size, thus eliminating the problem of alternate bearing. —Phil Brown, Supt., Chelan Falls Orchards, Chelan Falls, Wash.

Uniform Fruit Set

I HAVE a 4½-acre block of Red Delicious apple trees which originally had only a few Red Rome pollinators. Poor crops and erratic fruit set were its history.

In 1954, Golden Delicious grafts were set in every other tree. These grafts are heavily pruned to maintain small size and each year they help to set a good crop.

But for best production I find it necessary to apply the recommended dosage of 20 to 25 ounces of quarter-strength pollen per acre. By applying at two to four different times during bloom, I have achieved a more uniform fruit set.

First, I apply the pollen on the south side of each tree at the rate of 1 teaspoon in the air blast of my Speed sprayer. This application is best timed when 50% of the king blossoms are out on the sunny side.

Proper handling of the pollen is important. I take only enough to the field that I can use in one or two hours and I keep the rest stored in the refrigerator or freezer.

In 1959, I tried using the "EZ" pollen applicator on isolated Delicious trees in my Winesap block. This

method of application consists of a hand puff-gun with a long tube and nozzle attached. There were no grafts in these trees and the Winesap pollen is worthless.

I harvested 28 to 30 boxes of good quality fruit from each of these trees. Counting the entire Red Delicious block, including trees which failed to bloom in 1959, I picked an average of 26 boxes on these 28-year-old trees. Total per acre yield was 1444 boxes. I can attribute several benefits to pollinating in addition to higher yield. The uniformity of fruit size and shape were important. I had better distribution of set fruit and by thinning to a single apple per spur the fruit had better color at harvest.

It takes five fertilized carpels to give the famous Delicious shape. Lopsided apples must be thinned off or sold at harvest at lower grade.

Other growers have applied pollen by airplane with good results.

This spring I will try another method of pollinating, the brush method. A No. 4 art brush is dipped into the pollen and applied to six to eight blossoms. The brush is wiped clean of any pollen collected from the blossoms worked on and the process is repeated.

About 2 to 6 volume ounces of straight pollen should be applied per acre, depending on the size of the trees. This is a practical method of bringing young trees into bearing early.

Time and labor are factors to be considered when choosing a method. Total costs are around \$20 to \$40 per acre, including labor. —John V. Urness, Manson, Wash.



A. W. Legg, Manson, Wash., with bucket and teaspoon, stands behind air-blast sprayer used to apply pollen. When sprayer passes tree to be pollinated, pollen is tossed into air stream.



'60 Fleetside—high-styled way to keep costs low!

Figure on extra thousands of miles in this Chevy pickup

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mounts. The whole truck stays new longer, and its working life is increased by extra thousands of miles.

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While you're at it, notice the roominess of the cab. That three-man seat is wide and soft, and there's more space from your hat down to your feet. The cab's lower, too, easier to get in and out of; still there's ample road clearance.

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- Growing Nuts in the North, by Carl Weschke. Here is the author's 33 years of experience at his Hazel Hills Experiment Farm in Wisconsin. 124 pages. \$2.00
- Profitable Roadside Marketing, by R. B. Donaldson and W. F. Johnstone. A practical handbook for the successful operation of a roadside market. 142 pages. \$2.00
- Propagation of Plants, by M. G. Kains and L. M. McQueston. Gives the working methods of plant propagation. 560 pages. \$6.95
- American Wines and Wine-Making, by Philip M. Wagner. A practical illustrated book for the small grape grower and home wine-maker. 230 pages. \$5.00
- Fruit Pest Handbook, by AMERICAN FRUIT GROWER editorial experts. This pocket-size illustrated manual gives latest control measures for all major diseases and insect pests. 100 pages. \$2.00

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Nova Scotia's

Modified Control Program

Friendly insects and fewer sprays comprise an effective pest control program in Canada's northeastern province

By A. DAVID CROWE

Nova Scotia Department of Agriculture

IN Nova Scotia, the year 1960 will be the 10th season that apples have been grown commercially under the "natural control" program. The story of this program is quite largely that of A. D. Pickett.

In the early 1940's, as the officer-in-charge of entomological research in Nova Scotia, Dr. Pickett began wondering where we were going in the spray program. Bud moth, codling moth, gray-banded leaf roller, oystershell scale, rosy aphid, and red mite were all serious pests—and seemed to be getting a little bit worse each year.

Dr. Pickett decided to initiate work to see if spray programs could be devised which would avoid this worsening of the pest control problem. Very quickly it was found that oystershell scale would be controlled by its natural enemies if the grower avoided the use of sulfur sprays.

This was encouraging, particularly as new fungicides were appearing which gave promise of interfering less with the predaceous and parasitic fauna of the orchard. The entomological staff continued their research along these lines and by 1950 they had pushed their experiments to the point where they felt they could recommend to a number of growers a trial program in which very few if any insecticides or miticides were used.

Fortunately, most growers who tried this approach were able to get satisfactory results and usage of the natural control program expanded. New materials and techniques have assisted this development.

Today we find the large bulk of the apples grown in Nova Scotia are grown under this program. Along with changes in the program have come changes in terminology. The title of natural control has been replaced by the more accurate term of modified control. And it is likely that integrated control would be an even more desirable term.

Growers on the modified control program actually do use chemicals for insect control, but only when necessary. This is the crux of the problem. When is an insecticidal spray necessary? Can a grower just sit by and take a chance on extensive

damage while waiting to see if nature will do the job for him? Fortunately, our growers have now reached the point where they do not need to go through this nerve-racking process.

There are three reasons for this. In the first place, once an orchard is adapted to a modified program, the changes in insect and mite populations proceed at a much slower pace. The only increase in populations is that which is over and above natural control agencies whereas under a full chemical program there is the full expansive potential of the pest to contend with.

Keep in mind, however, that reasonably good observations will need to be made on insect and mite populations in order to know what is happening. For example, on a sporadic orchard check you could find red mites and decide that a spray was necessary. Actually they might have passed their peak numbers, natural enemies having built up to the point where they were rapidly detroying the mites. Thus a spray would be both unnecessary and actually harmful.

The second reason we do not worry unduly is that we have many more "tools" to work with. We now have chemical control methods for all our pests which will perform the dual function of enabling the grower to kill the pest and still allow many of the natural control agents to operate fairly effectively.

Other chemicals used at certain times are nicotine sulfate, lead arsenate, ryania, and Ovotran. In general, the chlorinated hydrocarbons like DDT and the organic phosphates like parathion are avoided though they may be called on in special cases.

Our third big safeguard is experience. We now have a pretty good idea what is going to happen in any particular case. Our extension entomologists, M. E. Neary and R. L. Horsburgh, warn growers of pests which appear to be building up to where they could cause injury and tell them when to watch for them in their orchard. They will also help a grower to check his orchard if necessary but it is suprising how well the growers are learning to operate the modified control program without this individual help.

It would be wrong to leave the

AMERICAN FRUIT GROWER

impression that there are no problems. There are. We need more chemicals that are specific for a single pest—the way ryania will control codling moth and not interfere with the natural control of mites. Species which were not economically important before have a way of developing.

Prior to the adoption of the modified control program, random samples of all apple orchards showed an average of about 15% of the fruit was being directly damaged by insects. This figure has declined steadily with the general adoption of the modified control program and has leveled off at an average of about 4% for the past three years. In addition, mites were a widespread pest whereas now they are only an economic problem in orchards where growers have used wide spectrum insecticides.

In 1955 an economic study of the apple enterprise on 100 farms showed the average per acre expenditure for insecticides-miticides was \$4.71, for fungicides \$18.88. Comparable figures for 1959 are not known but the available information would indicate that expenditures for insecticides are about the same today. Expenditures for fungicides have risen considerably; last year they were probably about \$30 per acre.

How would the Nova Scotia program work elsewhere? It wouldn't. But there are indications that a New York modified control program, for example, would work as well in New York as the Nova Scotia program does in Nova Scotia. After completing his doctoral research on natural control of mites in New Jersey, H. B. Specht wrote:

"More experimental work is required before a satisfactory selective spray schedule for apples in New Jersey can be devised to produce apples of the fine quality and finish that are now being produced with the commercially recommended spray schedule. The major problem at present is to develop a satisfactory control for plum curculio and apple aphids which will not be deleterious to the natural control of orchard pests."

The key to a successful modified control program is thus the finding of chemical control methods which will enable biological agents to exert a major role in the overall pest control program. Nova Scotia growers are fortunate that their research entomologists have been able to work out such a program. THE END.

Editor's Note: Modified spray programs in the U.S. and British Columbia have not been successful to date, due, no doubt, to a more favorable climate than in Nova Scotia for insect development.

MARCH, 1960

FRIEND AIRMASTER '322'

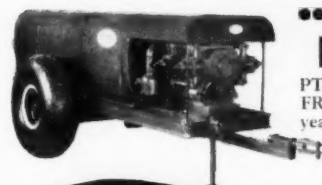


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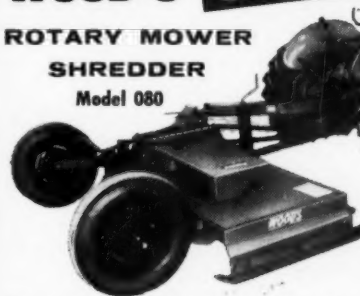
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OKLAHOMA

(Continued from page 15)

on a tractor-operated eccentric which creates about a 1-inch stroke. Pickers are paid several cents a pound to gather nuts from the ground and this operation is the most expensive single item for pecan growers.

Pile, like many other pecan growers in the United States, wishes there were a relatively inexpensive machine available for more efficient harvesting. This problem and that of irregular bearing constitute major research items.

When these problems are solved probably at least another million wild pecan trees in Oklahoma will be brought into cultivation. The market is far from saturated with these delicious nuts which contain practically no cholesterol that is associated with the heart troubles of many people.

Strawberries are another important fruit in Oklahoma. According to USDA Crop Reporting Board about 2000 acres produce 4,300,000 pounds of berries. Most of the commercial crop is grown on rocky hill-sides of the Ozark Mountains in eastern Oklahoma. In the four counties of Adair, Cherokee, Delaware, and Sequoyah approximately 300 growers hire 7500 to 10,000 pickers each year. About 90% of the total crop is frozen and the remainder is sold as fresh fruit.

Claude Todd, president of Stilwell Canning Company at Stilwell, estimates that 80% of the total crop in Oklahoma is frozen by their company. They freeze over 4 million pounds of berries each year; occasionally their 500 employees process more than 300,000 pounds in a single day.

There are several reasons for the success of the strawberry industry in eastern Oklahoma. Although the land is extremely rocky and berries often are grown on steep slopes unsuitable for other cultivated crops, the Blakemore variety grows well and produces fine colored berries particularly suitable for freezing. With proper care and fertilization, in some years yields of more than 200 crates of 24 quarts are harvested per acre; this is equivalent to almost 4 tons.

John R. Brown, Westville, is typical of the good strawberry grower in this area. He usually has from 20 to 30 acres in strawberries on what is called "newly cleared" land. This means that hillsides covered with scrub oak are cleared in order to plant strawberries. Usually the value of the timber equals the cost of clearing and preparing the land for planting.



A clean-cultivated grove of native pecan seedlings near Chandler. Large tree on the right often produces over 400 pounds of nuts. Small trees in foreground are of a grafted variety.

Brown purchases virus-free-indexed plants from Arkansas and tries to have them in the ground by March 1. He plants them 14 to 18 inches in rows 4 feet apart and broadcasts 300 pounds per acre of 10-20-10 fertilizer in the early spring each year. Some growers split their fertilizer applications and most of them reduce the cost of weeding by using a custom sprayer to apply 2,4-D.

The Blakemore variety is grown almost exclusively because it thrives under these conditions and produces berries that are easy to cap. Capping consists of removing the stem and calyx at picking time.

Customarily strawberries in this area are harvested for three successive years. By the third year the yield may be only 100 crates per acre but is still worthwhile. Many Indians and other family groups pick during the season which lasts a little over two weeks.

Weeds and grass become such major pests that strawberries are seldom replanted on the same soil for many years. Occasionally snap beans are planted after strawberries, but since several thousand acres of "new land" are available, growers probably will continue their present methods for many years.

Strawberry growers in eastern Oklahoma also often produce blackberries. In addition, this fruit thrives and is grown commercially on the rolling plains of central Oklahoma. Although blackberries are not as important as strawberries, until recently more than 600 acres were under cultivation. The demand for blackberries is greater than the sup-

ply but in several instances acreages have been reduced because of insufficient labor for harvest. Should more labor become available or a method of mechanical harvest be developed, Oklahoma is particularly well suited for a great increase in the production of blackberries.

The Lawton variety, or a local selection very similar, is most popular because it ships well and is of good quality. They are quite winter hardy and resistant to most diseases (although on the plains with dry winds, little disease occurs).

Blackberries in Oklahoma respond to good cultural care such as pruning, cultivation, and fertilization. More than 2000 quarts of berries per acre are obtained by some growers on land which otherwise would be suitable only for pasture. Well-managed plantings often gross \$650 per acre and generally continue to produce well for 10 to 15 years or longer.

Another small fruit, not of great importance now but certainly one that may become so, is the grape. The Concord type of grape usually is unsatisfactory in Oklahoma because the rather long warm growing season causes uneven ripening.

Recently Oklahoma Agricultural Experiment Station released a new variety named Cimarron, developed by Prof. H. A. Hinrichs. Cimarron is a Concord type particularly well suited for Oklahoma because the berries ripen evenly with a desirable taste and high juice content. It thrives throughout the state and is resistant to black rot and other common diseases.

French hybrid grapes also do well

in Oklahoma where thousands of acres are well suited for grape production. It is quite possible that within a few years experienced grape growers from other states crowded by urban developments will expand commercial grape culture in Oklahoma. Presently most of our vineyards are relatively small and the crop is disposed of locally.

Relatively isolated orchards of apples, peaches, and pears grow in the eastern two-thirds of Oklahoma. On the average, about 350,000 bushels of apples, 233,000 bushels of peaches, and 66,000 bushels of pears are produced each year commercially. There are no particular locations where these fruits are grown intensively and usually the crops are sold in adjacent towns and cities. Except in the most favorable of locations, these tree fruits occasionally are frozen out in the spring. They do supply good incomes for their owners in many years, however, and in some areas acreages could be enlarged profitably.

A bright future is predicted for pecans in Oklahoma, particularly with improved mechanization of harvest and pest control measures. Certainly the high quality of Oklahoma's frozen strawberries assures that industry a successful future, while blackberry and grape production may be expanded when conditions are favorable for their profitable increase.

THE END.

SCOTIAN GOLD

(Continued from page 11)

bright red roof and gleaming white building. Each is neatly landscaped and floodlighted at night. Normal operating period is from mid-May to mid-October.

Scotian Gold roadside markets advertise in local papers and on the radio. Radio spots from each location give a plug to the others in the chain.

Ice cream outlets are located beside quite a few of these markets. One complements the other with no conflict of interests.

All markets are completely self-service and the accent is placed on local fresh produce by mobile display stands which are pulled forward during opening hours and pushed inside the market at night.

Sweet cider is served from refrigerated self-serve dispensers in waxed cups which are attractively printed with the Scotian Gold emblem. Sweet cider is also, of course, sold by the gallon and half-gallon.

Another innovation which makes these markets unique is home baking. This is featured at all outlets.

Most stands also have an observa-

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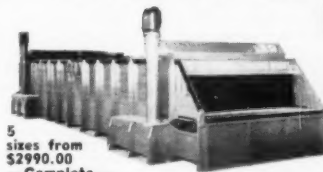
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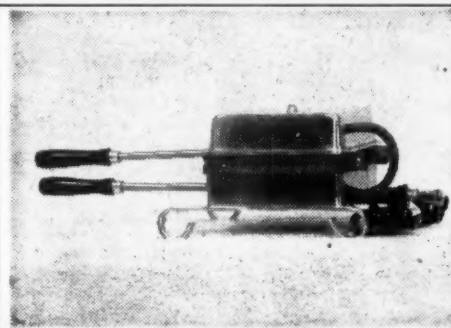


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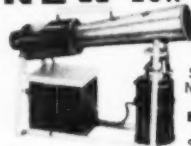
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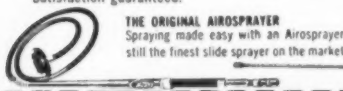
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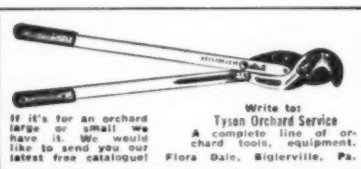
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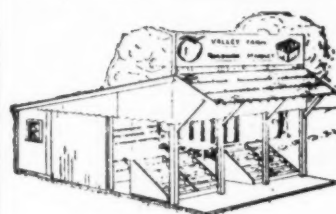
SKIBBE MFG. COMPANY
Sodus, Michigan

tion hive of working bees which has stimulated the sale of honey tremendously.

A large number of the markets have a "Picnic Corner" to meet the rapid development in picnicking and camping. Most of the markets sell ice to travelers and some are featuring barbecued chickens which are prepared on the spot.

Scotian Gold, while actually owning and operating only one of these markets, nevertheless keeps a close

Easy-to-Build Roadside Stand



Here is the basic architectural plan for Scotian Gold roadside markets. The stand has movable racks which make it possible to maintain an attractive display in accordance with supply and demand. Overhanging roof affords protection for the customer. Working drawings are available for \$2.00 from

AMERICAN FRUIT GROWER

Willoughby, Ohio

check on the operations of all the others. If for no other reason, this is necessitated by the fact that they are all operating under the banner of Scotian Gold, an organization enjoying an excellent demand for its various products through the regular channels or retail trade and institutional outlets from Winnipeg, Manitoba, to St. John's, Newfoundland.

These roadside markets have done much to publicize all Scotian Gold products but, more important, are responsible for moving a large volume of home-grown fruit and vegetables. There is every indication the number of outlets will increase within a few years. THE END.

GRADY HEADS CALSPRAY

NEW president of California Spray-Chemical Corporation is Howard J. Grady, who first joined Calspray in 1926. He also becomes president of Ortho Agricultural Chemicals Limited of Canada. Grady succeeds A. W. Mohr, who is retiring as president of both organizations.

ANOTHER break in the cold war! After 15 years without official exchange, the U.S. and USSR have reactivated an exchange program of plant research.

AMERICAN FRUIT GROWER

LABOR DILEMMA

(Continued from page 13)

ifornia is the prime goal of the Agricultural Workers Union which became a vociferous force in Pacific Coast farm labor last year as its operations received the endorsement and financial support of the state and federal AFL-CIO coalition.

It is a fixation of labor leaders that organization of farm workers cannot be successfully accomplished as long as half a million Mexicans—about one-fifth of them for seasonal work in California—can be imported for farm jobs in the United States.

"We want them to take their foreign army and take it home," says Norman Smith, an ex-steel worker who is now director of the Agricultural Workers Organizing Committee, commenting on the bracero program. "There are enough Americans to fill the gap. Crops are overproduced now because of the cheap labor pool of Mexican nationals."

This is contrary to grower opinion. Most of them are convinced that California's huge tonnage of fruits and vegetables cannot be harvested without Mexican nationals.

Richard Johnsen, executive secretary of the Agricultural Council of California, defends the foreign worker as a key to guarantee crop harvest.

"The farmer fulfills the requirements of the law," says Johnsen. "He hires all the qualified domestics he can. He seeks help everywhere and does everything possible to determine that a shortage of workers exists before he seeks imported workers."

There is no doubt the Mexican work program has been mutually profitable for both American farmers and the Mexican economy for a number of years. American farmers received the peak-season labor they needed to handle their crops—labor that was otherwise not readily available. The Mexican worker, jobless or poorly paid in his own country, received farm training and Yankee dollars. It is estimated they took home annually about \$35 million, an amount second only to the tourist trade as a source of American dollars for Mexico.

About three years ago the program started to come under increasing attack. Growers found costs rising. There was criticism of government spending of \$2 million a year to supervise the program. Eastern congressmen were told the bracero was sliding into the industrial work stream. Labor unions became noisy critics when unemployment rose to 5 million in the recent recession. Charges were leveled that foreign



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workers were causing a "wage freeze" in farm regions.

Not much attention was paid to the fact that hardly any of the domestic unemployed showed enthusiasm for undertaking farm work nor to the probability that if 500,000 foreign faces are removed from the nation's 1 million-man seasonal labor force, there may be no substitutes handy.

The campaign against the foreign work program will be centered this year in Congress where many congressmen, particularly urban congressmen, are unacquainted with labor problems of states like California, Arizona, New Mexico, and Texas. It is doubtful if the labor pact with Mexico will be killed but it is very likely that the screws will be tightened on the regulations.

If certification of foreign workers becomes more difficult there will be a continued decline in the number of such workers. For years it has been the pattern for growers to estimate their labor needs a month or more before a season began. An estimate would then be made of the domestic supply and paper work started on importing braceros. Indications now are that decisions on labor needs may not be made until the season is upon the crop involved. This may cause many a sleepless night for growers as they ponder upon the problem of picking perishable products.

The big grower associations that handle the Mexican work contracts have been bluntly warned to be on their good behaviour and they have told their members that even minor infractions may result in the loss of foreign work crews. One Northern California association has already dropped several growers from its rolls because of their work conditions.

How difficult the farmer's problems are in compliance when there is stern insistence upon following regulations down to the last comma may be seen in the fact that such regulations not only cover wages and hours of work but how the braceros shall be housed, fed, transported, bathed, and to some extent entertained.

Throughout California some 250 growers have been barred from getting Mexican labor by federal edict and hundreds of others are on notice they are only a violation away from the same labor ban.

A good deal of this furor over bracero employment is traceable to union agitation but what concrete benefit this has brought to the organizational movement is certainly a moot issue.

The most fertile field for union-

ization seems to be among seasonal workers but organization of such a nebulous group poses almost insurmountable problems unless a substantial nucleus of union members can be established as a base for the essential phase of negotiation.

Such a hard core of membership was the key to the unionization of California's cannery workers under the banner of a Teamster Union affiliate. At season's peak there are some 90,000 workers employed in the canneries but the negotiating nucleus is a group of 30,000 year-round cannery employees. A similar situation prevails in packing sheds and warehouses that handle raw supplies from the farm. In all these operations temporary employees are required to acquire union cards to hold seasonal jobs.

The Teamster Union which is in-



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dependently powerful in California's agricultural industry because its members truck the crops and man the canneries has adopted a neutral position on the farm union's activity. It is equally neutral so far on the bracero program, watching only that the Mexican nationals are not used in what it considers its jurisdiction.

Most growers aren't worried so far about union strength. They are, in fact, more irritated by its propaganda and political activities.

The strategy of the Agricultural Workers Union seems, indeed, designed at this time more to show its nuisance value than to impose union conditions. Last year it made only one announcement of a contract signed—that with a group of 12 San Joaquin, Stanislaus, and Contra Costa tomato sheds covering 1000 workers. In Butte County Smith in-

(Continued on page 67)

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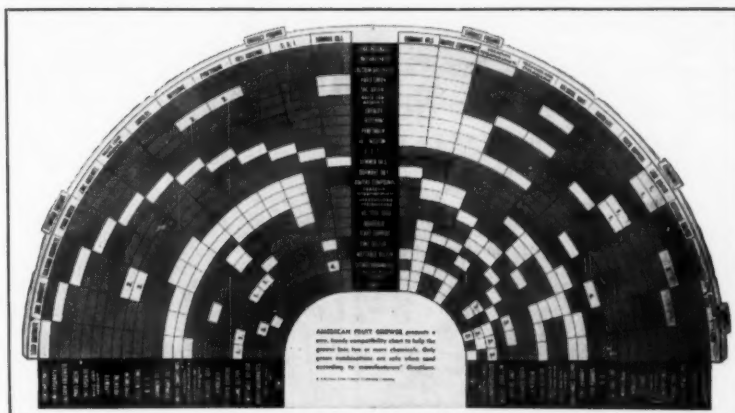
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NEW FOR YOU

Easy Mulching

Michigan growers are using a new piece of equipment which has made mulching their orchards simpler and much less costly. The new equipment is pictured below, and can be mounted crosswise on trailers so that trees can be mulched easier by merely driving the tractor around the tree. Likewise, strawberries can

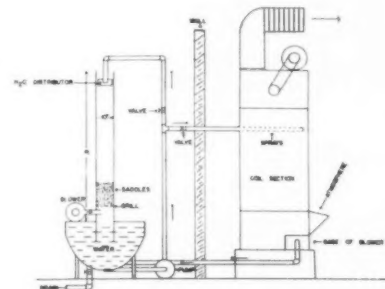


be mulched on or between the rows by directing the unit wherever the grower wishes. The equipment is powered by a new 18 h.p. Wisconsin engine and the rate of application of the mulching material is controlled by the tractor speed. You will want to know more about this orchard driven machine. Write Dave Friday, The Friday Tractor Company, Hartford, Mich., and he will be delighted to tell you all about it.

Price Control

Fruit growers everywhere are giving more than thought to the building of cold storages. Storages are springing up throughout the industry and primarily for the reason that fruit farm storage gives the grower control over the flow of his product to market. We were quite impressed with the Derwood Strout storage in Wallingford, Conn., and the Sunny Slope Farms storage in Wallingford, Conn., and the Sunny Slope Farms storage in Bridgeton, N. J. Both of these storages are of the controlled atmosphere type and have proven to be most effective. These include an interior scrubber which is used with a conventional brine spray cooling unit. This type of scrubbing equipment, illustrated in the accompanying sketch, uses about half the amount of caustic soda as compared with the exterior

type. The rest of the refrigeration equipment is of standard design. The conventional brine spray cooler is furnished with Rubberkote finish and is engineered to maintain temperatures of 32° F. with a 90 to 95% relative humidity. For storage rooms held at 38° F. for varieties such as McIntosh and Northern Spy, it is advisable to use a back pressure control valve to maintain high coil



temperature. This can be easily done with the same equipment. Leaders in CA storage are the Niagara Blower Company, and I suggest you write to N. V. Amorosi who is an expert in CA development. I know he will be glad to give you all the details and save you a great deal of worry and money. His address is 405 Lexington Ave., New York 17, N. Y.

Advertise

If you have a roadside stand, you want people to know about it, and a good-looking, easy to read, durable sign is a must. Or perhaps you want to have the name of your orchard prominently displayed. I saw some letters which are cut from sound pine boards and exterior plywood which are sanded and drilled for easy fastening with nails or screws to any signboard or building. You



don't need special tools or experience. A space-bar and easy-to-follow instructions guide you from start to finish. The net result is a sign that will last for years and the cost is only a fraction of what you'd pay for the complete sign made elsewhere. Gordon Reed, of Northland Products, Star Route 22-282, Rockland, Maine, will be delighted to rush you full details on available sizes of Signcraft letters.

LABOR DILEMMA

(Continued from page 64)

tervened to end a one-day strike against a peach orchard.

Growers are seriously concerned with the attacks upon the "piece rate" system of pay which has been a particular target of virulent invective by labor union leaders who claim, it should be increased by at least 50% in many crops. For example, last year in the San Joaquin tomato growing area they plugged for an 18 cent per box payment for tomatoes, asserting growers wanted to pay only 12 cents a box.

Labor unions can and do point to workers who earn less than \$5 a day but growers can exhibit workers who make as much as \$40. How do you estimate wages of a family working in grape and prune harvests? What is the real wage of a hired hand who gets a house and food and the use of a car plus \$250 a month in cash?

How do you estimate wages when the pay is passed from the farmer to a contractor to the worker? Do you consider relative value when you consider the pay of a bracero who can work three months in a California orchard and live comfortably on his take home pay the rest of the year in Mexico?

The long time associate of the migrant, the skilled migrant farm worker, has always had a preference for piece work pay. This skilled migrant is a caste of worker that is fast disappearing in California and who is sorely missed. In the last 20 years the migrant has settled down.

There are large settlements dominated by former migrant families in the vicinity of Stockton, Modesto, Marysville, and Visalia. The grandparents and the parents may still engage in farm work—in the neighborhood of their homes—but the youngsters are steadily drifting out of farm work. They want and are getting jobs in factories, construction, stores, offices, and banks.

When all is said and done, when you walk all around the problem, it becomes obvious that the greatest assault upon the traditional framework of California farm labor is coming from the machine.

The total machine age is coming to California's commercial crops. It has been infiltrating the farm community for 15 years. It will come to full flower inside a decade.

In many ways it will be the most painless of movements to replace manual labor with machines since all the evidence indicates the steady, settled worker will stay with the farm along with the machine and what will be displaced will be a

fringe of part-time workers who are almost as indifferent to working on farms as the farmers are to hiring them, plus the foreign labor pool.

There is no hope—whether growers like it or not—of retaining the easy flow of foreign workers from Mexico although it is equally true—whether labor unions like it or not—that the bracero will remain to some extent in the American work stream for years. It is not only political attitudes that will interrupt the bracero program, it will be that most basic of industrial agitators—rising costs.

Foreign work crews are going to become more expensive and the insertion of any additional cost factor—even such an item as the requirement that a bunk house must be heated—is as likely as not to swing the pendulum of alternate use in favor of the machine.

Masses of manpower were the foundation upon which the framework of commercial agriculture was built in California. The masses are no longer available and manpower, even of the poorest quality, is becoming too expensive for the farm economy. There has to be a substitute and the machine is readily available.

Mechanization will boost capital investment in farming but it will drastically cut operational costs. Balanced out, it will be more expensive to become a farmer but less expensive to remain one.

The revolution begun a generation ago is beginning to show its ultimate effects in mass food production that prevails in California. As the price of farm products levels out it is requiring more and more acreage to produce the crop volume needed to attract adequate profit.

As the farms grow larger it is more feasible, even more necessary, to use machines in place of men and it is obviously simpler to hire or train small skilled crews of operators than it is to beat the river bottoms and the skid rows for inept labor or to wrangle with a government inspector over the comforts of a foreign worker.

There will probably always be family-sized farms where the owner, his family, and a hired hand or two can handle the work but the truly commercial farm will have to adjust to the machine to survive.

And so a new keystone is being inserted into the framework of California farm labor. Neither a cultivator nor a harvester, the key farm worker will be a mechanic and an equipment operator—and with the tools of his trade he will raise not only the status of the farm worker but likely as not he'll boost the statistics of farm profits. THE END.

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AFG-3

AUCTION

Wednesday, March 23 at 10 A.M. It is located 2 1/2 miles Northwest of Berrien Springs, Michigan, on Lemon Creek Road at Gifford Packing House. Consisting of farm equipment, tractors, etc.; construction equipment; industrial equipment; plumbing and electrical supplies—new and used. **1,000 metal bunk beds** and many miscellaneous items.

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American Fruit Grower

• Fruit for Health •

RICHARD T. MEISTER, Editor
H. B. TUKEY, Associate Editor

No Longer Alone!

THERE seems to be a general sentiment rolling up from all corners of agriculture which asks for a sane re-evaluation of the regulations on pesticides, herbicides, feed additives, and related agricultural chemicals.

The Delaney Amendment to the Food Additives Act says that no substance can be used in foods or feeds which has ever produced cancer anywhere, anytime, in any animal.

A manufacturing concern wishing to introduce a new material must *prove* that it *does not* produce cancer and never *could* produce cancer. Such proof is just about impossible, and progress in agricultural chemicals is in consequence as dead at the moment as the proverbial dodo.

No one wishes *not* to protect the public. But there is such a thing as judgment. Nitroglycerine will blow up a city if used in large enough quantities, but it is a medicine used by doctors in certain heart ailments. Almost any substance used in irritating quantities will induce cancer—common salt, pepper, and many herbs. The point is that there are ways of critically evaluating a

chemical, and there are scientists who can do the job.

In all probability the Food and Drug Administration needs more hands. If it does, we ought to help get them. Further, agriculture should be given a chance to be heard; "two heads are better than one even if one of them is a sheep's head," as the old saying goes.

And finally, the FDA is important enough to be set up as an independent government agency like the Interstate Commerce Commission, the Federal Trade Commission, and the Federal Reserve Board. It should not be made responsible to a politically appointed cabinet officer who just possibly could be influenced by publicity and a chance to get into the limelight.

The cranberry growers are no longer alone. What happened to them has brought this entire matter up for review and fair appraisal. We should not rest until some improvements are made—improvements which will adequately protect the consumer but which will also protect those in the important business of raising foodstuffs from the capricious conduct of a single individual.

For Dental Health . . .

THE old saying, "an apple a day keeps the doctor away," will have to be altered to "apples every day keep dentists and doctors away."

Recent studies conducted by University of Liverpool's School of Dental Surgery showed fresh apple slices eaten after every meal will help control tooth decay and gum disorders.

A two-year study was conducted on children up to 15 years of age by Dr. Geoffrey L. Slack, British dental surgeon and scientist.

The children were divided into two groups. One group was given fresh apple slices after each meal; the other received no apples. The results of the study showed the apple group suffering only one-half the amount of tooth decay and one-third the incidence of gum disorders as the no-apples group.

We can recall when we were a tyke Mother cut an apple in half, scraped

the flesh with the bowl of a spoon, and plunked the spoonful of apple into our eager mouth. Guess mother possessed that sixth sense.



Fruit Talk

Foliar feeding, say Russian scientists, has a threefold value to the plant. It takes care of minor element deficiencies, supplies a small amount of nutrients, and in some yet undetermined way often markedly **increases the uptake of nutrients** from the soil by the roots—perhaps by increasing photosynthesis and supplying additional energy to the roots.

Now that the crop is disposed of, the biggest problem facing three prominent fruit growers in a serious huddle at a recent Midwest fruit meeting was, "What's the best route to Florida?"

The greatest value on the farm is the energy from gasoline and electric power. Reminiscing about that old back-breaking lifting and piling of crates, a retired fruit grower relates how he lent a neighborly hand last fall **hauling fruit to the storage**—four loads an hour, 250 bushels to the load, pallets and fork lifts, "and I never even got out of the cab!"

An excellent example of the successful acquisition of processing facilities by fruit growers is to be seen in National Grape Co-operative which has made final payment on their mortgage on the 90-year-old Welch Grape Juice Company, the oldest and most successful processing business in the eastern grape industry.

Mrs. Eleanor Roosevelt relates in her recent book that she starts the day with **hot water and lemon juice**. "What a boon to the lemon industry," chuckled an enterprising wag, "if every Democrat in the country could be induced to follow her example!"

Great Lakes Co-operative, says T. E. LaMont, of Albion, N. Y., moved 2000 tons of cherries out of Niagara County area last summer where two processors had ceased processing cherries. They then **had them processed** to their own account, thus preventing a break in cherry prices in that region.

Said Liberty Hyde Bailey a great many years ago, "**Knowledge is knowledge** . . . the scientific spirit wants only the truth. It is worthwhile to reach the North Pole, even if town lots **cannot be sold** . . ."

For any of you readers who want to practice up on your Russian, try a **Russian translation of Plant Regulators in Agriculture** put out by H.B.T. a few years ago. You can compare the Russian and the English sentence by sentence. But most of all, it makes a person stop and think to see American books translated and made available to Russians, while we sit agitatedly fuming at our inability to get some excellent Russian books translated into English.

A British report on the use of fresh fruit shows that where fresh fruit is freely used in the home, four out of five housewives keep the fruit in some bowl **accessible to everyone**. Is there an idea here? —H.B.T.

Coming Next Month

- Tennessee's Ralph McUmbler and His Successful Peach Enterprise.
- Latest in Mechanical Fruit Harvesting
- Developing a Semi-Dwarf Apple Orchard
- Health Value of Grapes

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68,000 cu. ft.—air volume per minute

25,000 gallons—spray material per day

The new Oliver 505 sets a new standard of performance for orchard and grove operators. Imagine beating the certified reports of custom sprayers who have acclaimed the predecessor model. Now you can do better than this—a day's operation on 27 gallons of diesel fuel for both tractor and sprayer, less than \$5 for fuel...application of 25,000 gallons of dilute or concentrate spray material in one day...complete leaf and limb coverage with 68,000 cubic feet of mist-filled air per minute from a slow-speed, easy-maintenance, 1850 r.p.m. fan.

Ask your Oliver dealer for a demonstration of the new 505 Air-Mist sprayer in your own orchard or grove. At the same time, try out a diesel 770 orchard tractor and measure the fuel you'll save.



THE OLIVER CORPORATION
400 West Madison Street, Chicago 6, Illinois

GO BIGGER...GO BETTER — GET OLIVER TEAMED-POWER



Mr. W. A. Schaefer says:

"Captan produces the finish the trade demands"

Read Mr. Schaefer's full statement above and see why another successful commercial grower considers Captan the most profitable fungicide he can use.

Most profit-minded fruit growers have found that Stauffer Captan 50-W, the quality fungicide, reduces scab to a minor problem when used in a full-season schedule year in and year out. It reduces overwintering scab fungi to such a low level that scab control is easier each succeeding year.

Stauffer Captan 50-W is easy on foliage, has "kick-back" or eradican action against apple scab, lets fruit develop a superior finish and combines well with most other spray materials to help

meet special problems and conditions.

For example, a half dosage of Captan mixed with a half dosage of Stauffer Magnetic "70" Sulfur Paste or Microfine Dry Wettable Sulfur makes a safe, highly-effective pre-bloom spray to control scab and powdery mildew.

Use Stauffer Captan 50-W as your fungicide for apple scab and other diseases from pre-bloom right up to harvest. Use it, also, to control peach brown rot, blossom blight and scab; cherry brown rot and leaf spot; and strawberry fruit rots.

Stauffer Chemical Company, 380 Madison Avenue, New York 17, New York. Sales and service offices throughout the country.

Stauffer is one of America's largest specialists in farm chemicals. Look for and buy Stauffer brand INSECTICIDES, FUNGICIDES, WEED KILLERS, MITICIDES, SEED PROTECTANTS, FUMIGANTS, GROWTH REGULATORS, GRAIN PROTECTANTS, DEFOLIANTS.



